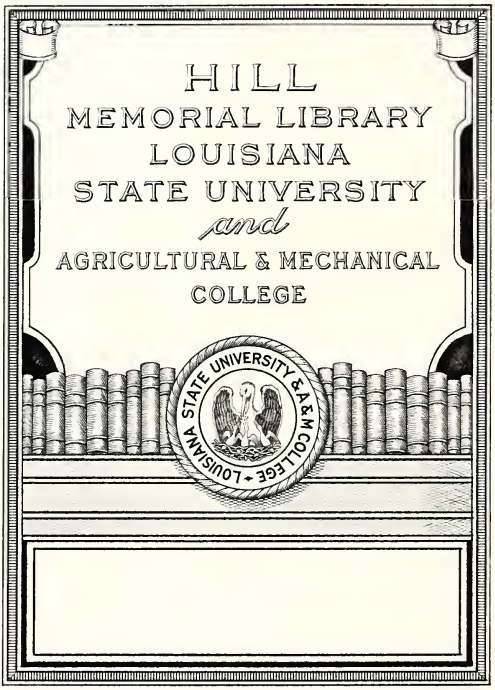
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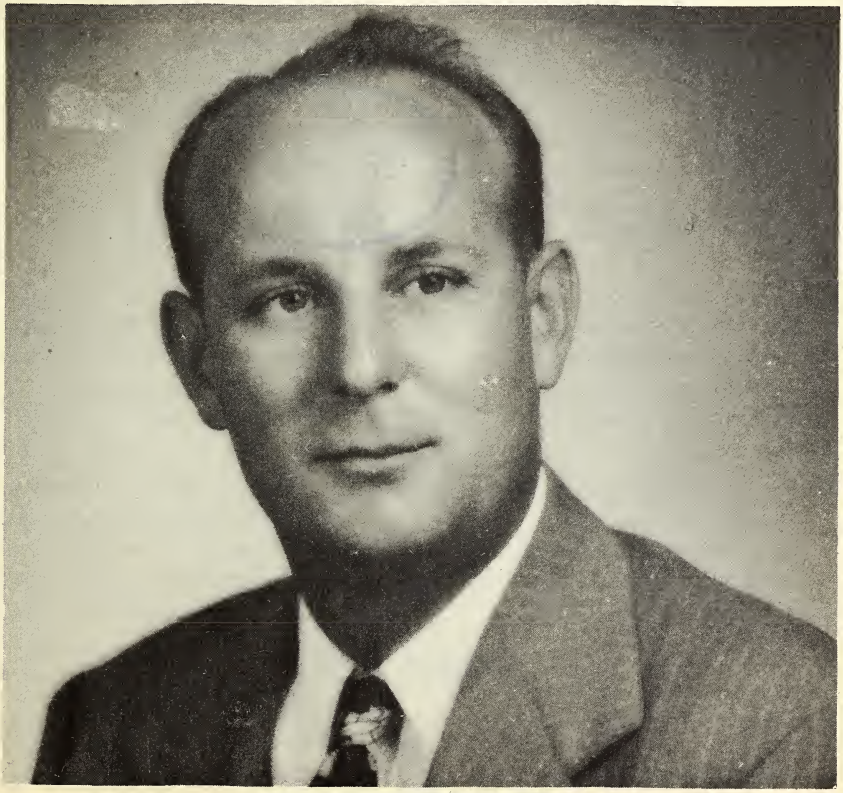

F. A. GRAUGNARD, JR.
Eighteenth President of The American Sugar Cane League

Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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Josiah Ferris, Manager

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We stand for the encouragement of Home Industries as against Foreign Competition

UP FRONT WITH THE LEAGUE

by

A. W. DYKERS

The Annual Meeting

The thirty-third Annual Meeting of the American Sugar Cane League was held in the Auditorium of the International House in New Orleans on September 29th and F. A. Graugnard, Jr., President of the St. James Sugar Cooperative, Inc., of St. James, La., was elected the League's eighteenth President. Other officers elected were Edward Schexnayder of Bayou Goula, 1st. Vice-President; Bronier Thibaut, of Napoleonville, 2nd Vice-President; Warren Harang, Jr., of Thibodaux, 3rd Vice-President; Josiah Ferris, of Washington, D. C. 4th Vice-President; Gilbert Durbin, of New Orleans, 5th Vice-President; Marcel J. Voorhies, of Baton Rouge, Vice-President Emeritus; J. J. Shaffer, Jr., of Elendale, Secretary; and T. M. Barker, of Lockport, Treasurer.

Elected to the Executive Committee were P. L. Billeaud of Broussard, L. A. Borne of Raceland, H. K. Bubenzer of Bunkie, J. P. Duhe of Jeanerette, F. Evans Farwell of New Orleans, A. H. Feske, Jr. of New Iberia, Murphy J. Foster of Franklin, Andrew P. Gay of Plaquemine, W. F. Giles of Jeanerette, Walter Godchaux, Jr. of New Orleans, Wallace C. Kemper of New Orleans, John B. Levert of New Orleans, Earl G. Luke of Franklin, E. W. McNeil of Cinclare, J. J. Munson of Houma, Charles C. Savoie of Belle Rose, James H. Thibaut of Donaldsonville, Ivan M. Wilbert of Plaquemine, Horace Wilkinson III of Port Allen, and M. V. Yarbrough of Youngsville. Stephen C. Munson and David W. Pipes, Jr. were elected honorary members of the Committee.

The thirty-third Annual Meeting was a pretty good affair with talks

(Continued on page 9)

In This Issue

Up Front With The League 3
The Annual Meeting—Fire Prevention Week October 9th - 15th

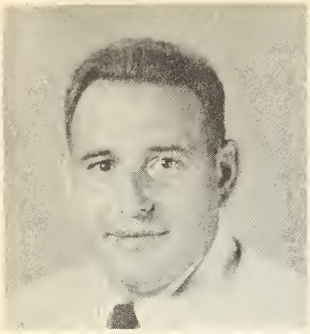
In The Field With Lloyd L. Lauden 4
Johnson Grass Control

In Washington With Joe Ferris 5
1956 Marketing Hearing—Proportionate Shares For Beets—Sugar Rationing Again

Annual Report of President Duhe 6

Wallace Kemper Honored 7

Final 1955 Mill Marketing Allotments 10



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Johnson Grass Control

The Johnson grass control experts, Mr. E. R. Stamper and Dr. S. J. P. Chilton, L. S. U., publish an article in THE SUGAR BULLETIN each spring on a control program for Johnson grass and other weeds.

The recommendations outlined in the control program have given much help to the sugar industry. Growers who have taken the recommendations as a "several steps package," or as a complete program, have been the most successful. Many who have only haphazardly followed the recommendations have been somewhat disappointed. The recommendations have been made only after years of trials and experiments using different chemicals alone and in combination at different rates per acre, and applied at different times. The experiments were done on rather large scale and at many places throughout the belt. Better control of Johnson grass can be expected as a direct result of following the recommendation to the letter.

It must be remembered that the chemical weed control program is not only a spring program but a fall program as well.

Below are the recommendations for the fall treatment to control Johnson grass seedlings in plant cane.

Fall Treatment: (For cane planted August 1 to October 15)[1]

1. Surface of soil should be made firm by rolling or cultipacking immediately after planting and covering the cane.

2. Apply a drill spray of 1 lb. acid equivalent of the amine salt of 2,4D on band 36" wide on top of the row.

3. Approximately three weeks later, or after a rain, apply 4 to 7 lbs. of 90% sodium TCA per acre on 24" drill area, depending on the number of seedlings escaping the 2,4D treatment.

4. Cultivate middles and sides of rows as needed, and rogue carefully.

The recommendations for the complete control program, both spring and fall, appeared in the February 15 issue of THE SUGAR BULLETIN in an article entitled, "Recommendations for the Control of Johnson Grass and Other Weeds in Sugarcane" by E. R. Stamper and S. J. P. Chilton.

Copies of the recommendations for the control of Johnson Grass can always be obtained from the County Agents.

The chemical weed control program has worked for many farmers. A check of these will indicate recommendations were followed very closely.

Reports that the chemicals do not work have been received from only a very few farmers. A check of these will indicate that recommendations were *not* followed.

On the surface the chemical weed control program appears costly. A more careful analysis will show it is not costly when consideration is given to increased yields as a result

(Continued on page 15)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

1956 Marketing Hearing

The following letter from the Sugar Division, U. S. Department of Agriculture, on the subject of marketing, is of interest to all growers and processors alike.

UNITED STATES DEPARTMENT OF AGRICULTURE
Commodity Stabilization Service
Sugar Division
Washington

September 22, 1955

Mr. Josiah Ferris
American Sugar Cane League
510 Union Trust Building
Washington, D. C.

Dear Mr. Ferris:

In looking ahead to allotment of the 1956 sugar quota for the Mainland Cane Sugar Area, we have been making some estimates of the situation that might prevail if preliminary allotments are established at 80 percent of 1955 allotments. Such preliminary allotments would be in keeping with the principle followed in making preliminary allotments for 1955 and could be accomplished on the basis of a brief hearing held sometime this fall in Washington, permitting the more detailed hearing to be deferred until most mills complete the 1955 crop.

If each processor produces about the same amount of sugar as from the 1954 crop, 10 will carryover into 1956 a quantity greater than their 1955 allotments. Thus, if preliminary 1956 allotments are 80 percent of 1955 allotments, these 10 processors would have sugar on January 1, 1956, which could not be sold until final allotments are issued, equal to from 20 to 42 percent of their 1955 allotments. 13 other processors would have to carry smaller quantities until the final allotments are issued. This represents a situation which the processors who finish grinding in December have not recently experienced and it is desirable that all of them should be made aware of this prospect.

The alternative to the above would be to hold a complete hearing early in November which would permit an allotment order by January 1, using the allotment method that would be used in the final 1956 order but using estimated data to the extent that 1955-crop production, 1955 marketings and January 1, 1956 inventories are involved with final data to be substituted after all processors had completed grinding. This procedure would require allotting only 80 to 90 percent of the quota pending availability of final data but would probably fit the actual situation better than uniform percentages of 1955 allotments. Under this approach, additional allotment might be released before the Florida grind is completed by issuing a first revision as soon as the crop data are complete for Louisiana and another, final one, when Florida data are available.

It will be appreciated if you will determine the sentiment of all the processors involved regarding which of the two approaches is preferred by them and give us a summary by October 1, so that the proper notice of hearing may be issued and preparations made.

Very truly yours,
(s) Thos. H. Allen
Acting Director

(Continued on page 14)

ANNUAL REPORT OF PRESIDENT J. P. DUHE

Members of the American Sugar Cane League and our distinguished guests.

Today we reach another milestone in the life of the American Sugar Cane League. Our League is thirty-three years old today and for two of these years it has been my privilege to serve as your President. This is an honor that I greatly appreciate.

The American Sugar Cane League engages in a wide variety of activities, all of which are designed to promote the welfare of the Louisiana cane farmers and the mill operators.

It, of course, goes without saying that without the cane farmer there would be no mill operator and without the mill operator there would be no cane farmer. The two segments of our industry depend on each other. One cannot exist without the other. Everything the League does, therefore, is designed to promote the welfare of the entire Louisiana Sugar Industry of which *every* cane farmer and *every* processor is a vital part.

The following report covers some of the activities in which the American Sugar Cane League has engaged during the past twelve months in its efforts to help our cane farmers and our processors enjoy — together — a more prosperous existence.

The League worked long and hard during the past twelve months to get all the domestic sugar producing areas to agree on changes that need to be made in the Sugar Act. Representatives of the League spent many hours and days explaining Louisiana's need for a larger quota to officials of the Department of Agriculture, the Department of State, and to members of the White House staff, and to individual members and committees of Congress. The League's Washington office has been the center of more activity during the past year than ever before in its history. We are confident that the Sugar Act will be amended early next year to give Louisiana a larger share of the American sugar market.

Research is the mainstay of any industry and the League, therefore, tries to maintain an adequate research program for the Louisiana sugar industry. The League spends much time and effort in getting State and Federal funds for sugar cane research work and also spends substantial sums of money from members' dues to supplement the research programs.

The League, the Louisiana Agricultural Experiment Station, and the United States Department of Agriculture, working cooperatively, now have the best research program that the Louisiana sugar industry has ever had. Experiments designed to help the Louisiana cane farmers are being conducted at L. S. U.; the U. S. D. A. Experiment Station at Houma; on many co-operating farms throughout the Louisiana sugar area; at Canal Point, Florida; at the Southern Regional Research Laboratory in New Orleans; at the U. S. D. A. Experiment Station in Beltsville, Maryland; at Grand Isle, Louisiana; and even in far off Hawaii.

The League is presently paying part of the cost of research work on new cane varieties; on a new type cane harvester; on a cane planter; on drainage and deep tillage; on bagasse and molasses feed experiments; on Stunting Disease control; on milling and clarification research, and on the deterioriation of cane after harvesting.

It would take too long for me to discuss all the research work in which the League participates but to elaborate a little, we are at this moment in the process of distributing two new cane varieties for commercial planting and also a substantial tonnage of sugar cane treated to control the Stunting Disease.

The work on the experimental

(Continued on page 12)

WALLACE C. KEMPER HONORED

Editor's note: The following presentation was made by Mr. Paul Borron, Jr., at the thirty-third annual meeting of the American Sugar Cane League, September 29, 1955.

Mr. President and Members of the American Sugar Cane League:

I am honored in being accorded the privilege of representing you in conferring on one of your distinguished members your highest award of merit, Life Membership in the American Sugar Cane League.

This organization since its incorporation on September 28, 1922, has striven intelligently, courageously and continuously, often against tremendous odds, and usually under most adverse conditions, to promote and protect the welfare of the Louisiana sugar cane growers and proccessors. The problems, the trials and the tribulations of this great agricultural and processing segment of our economy have been wide and varied. In spite of the difficult path along which its destinies have led it, the industry, as a whole, has survived and enjoyed some measure of periodic prosperity. This would not have been possible without the inspired leadership, the natural ability, the intelligent planning, and the efficient performance of a relatively few individuals. These individuals have come from within the industry and some as outside scientists who have been intrigued by the challenge presented in our problems. Their efforts have been channeled largely through the American Sugar Cane League. To these men our industry owes its everlasting gratitude.

This debt of gratitude cannot be repaid in a material way, and these men who have so unselfishly dedicated their talents and efforts to the advancement of our industry expect no such material reward. However, in awarding life membership, the American Sugar Cane League takes full cognizance of the brilliancy of their services and accomplishments. Such award is not lightly made, but only in recognition of the highest meritorious service, above and beyond the call of duty. Including the award made today this organization in its thirty-three years of existence has granted only fourteen life memberships.

Today, the American Sugar League so honors Wallace Clegg Kemper.

Wallace Kemper was born at Franklin, Louisiana, in the Parish of St. Mary on July 11, 1904. His interest in sugar is a natural one. He is of the fifth generation in his family whose lives and livelihoods have been a part of the Louisiana sugar industry. He is the son of the late C. D. "Del" Kemper, whose work on behalf of the industry is now legendary, and to whom this organization also awarded a life membership.

Wallace Kemper was educated in the Public Schools of St. Mary Parish and in 1925 was graduated from Tulane University. His sugar education began in early childhood when his primary interests were the sweetness of a stalk of sugar cane and the intricacies of vacuum pans and centrifugals.

His career in sugar has been broad and eminently successful. During the five year period, 1925 to 1930, following the completion of his college education, he was employed by a sugar brokerage firm in the City of New York. During these five years his duties required his continuous presence on the floor of the New York Sugar Exchange, which experience has undoubtedly been invaluable to him in later years.

In 1930 he returned to Louisiana and became assistant general manager of Sterling Sugars at Franklin, Louisiana, and subsequently was promoted to the position of general

(Continued on page 10)

Left to right: (Seated) J. J. Shaffer, Jr., Secretary, and F. A. Graugnard, Jr. President. (Standing) Ed Schexnayder, Bronier Thibaut and Warren Harang, Jr., 1st Vice-President, 2nd Vice-President and 3rd Vice-President, respectively.

Paul Borron congratulates W. C. Kemper.

Experimental Cane Planter being developed cooperatively by the U.S.D.A. and The American Sugar Cane League.

UP FRONT

(Continued from page 3)

by J. P. Duhe, the retiring President of the League, Paul Borron, the League's attorney, and Hale Boggs, the very able Congressman from Louisiana's Second Congressional District, highlighting the proceedings.

Mr. Duhe reviewed the activities of the League during the past twelve months and we are printing his Annual Address beginning on page six.

Mr. Borron made the presentation, on behalf of the League membership, of an Honorary Life Membership in the League to Mr. Wallace C. Kemper and we are printing his remarks beginning on page seven.

Congressman Boggs talked about the fight that has been waged in Washington during the past two years to get quota relief for the Louisiana sugar industry — and it has been quite a fight.

We wish we could print the Congressman's talk but he spoke extemporaneously and we do not have a transcript of what he said. He seemed pretty sure that we would get our quota relief early next year but was not too optimistic about the 100,000 ton sugar purchase happening in time to do any good this fall. He blasted the Administration for delaying the purchase of this sugar which he said was practically ordered by both the House and the Senate before Congress adjourned.

It was a treat to have Mrs. F. A. Graugnard, Jr., the very charming wife of the League's new President, in the audience to see her husband assume command of the League. "F. A." is quite a guy and we know that she is proud of him. We are too.

Fire Prevention Week October 9 - 15

The week of October 9th through 15th has been designated throughout the country as Fire Prevention Week and the National Board of Fire Underwriters has asked us to ask you to be particularly careful during this week and every week to prevent fires. Remember — "EVERY FIRE HURTS YOU"

FINAL 1955 MILL MARKETING ALLOTMENTS

Processors	1955 Allotment Tons
Albania Sugar Company	5,014
Alice C. Plantation & Refy, Inc.	5,749
Alma Plantation, Ltd.	5,619
J. Aron & Company, Inc.	10,528
Billeaud Sugar Factory	6,479
Breaux Bridge Sugar Coop., Inc.	5,734
J. M. Burguieres Co., Ltd., The	4,859
Burton-Sutton Oil Company, Inc.	6,149
Caire & Graugnard	2,799
Caldwell Sugars Coop., Inc.	9,463
Catherine Sugar Co., Inc.	5,609
Columbia Sugar Company	4,684
Cora-Texas Mfg. Co., Inc.	2,459
Dugas & LeBlanc, Ltd.	9,853
Duhe & Bourgeois Sugar Co., Inc.	7,149
Erath Sugar Company, Ltd.	3,964
Evan Hall Sugar Coop., Inc.	17,053
Evangeline Pepper & Food Products, Inc.	3,669
Fellsmere Sugar Producers Assoc.	8,468
Frisco Cane Company, Inc.	695
Glenwood Coop., Inc.	9,188
Godchaux Sugars, Inc.	28,864
Helvetia Sugar Coop., Inc.	5,254
Iberia Sugar Coop., Inc.	11,058
LaFourche Sugar Company	11,703
Harry L. Laws & Company, Inc.	7,444
Levert-St. John, Inc.	7,683
Loisel Sugar Company, Inc.	4,609
Louisiana State Penitentiary	2,659
Lula Factory, Inc.	9,193
Meeker Sugar Coop., Inc.	2,689
Milliken & Farwell, Inc.	10,893
Okeelanta Sugar Refinery, Inc.	11,423
M. A. Patout & Son, Ltd.	6,759
Poplar Grove Pltg. & Ref. Co., Inc.	5,024
E. G. Robichaux Company, Ltd.	4,269
St. James Sugar Coop., Inc.	10,008
St. Mary Sugar Coop., Inc.	9,078
Slack Bros., Inc.	2,429
Smedes Bros., Inc.	3,274
South Coast Corp., The	34,703
Southdown Sugars, Inc.	33,408
Sterling Sugars, Inc.	9,523
J. Supple's Sons Pltg. Co., Ltd.	4,049
United States Sugar Corp.	101,555
Valentine Sugars, Inc.	10,058
Vermilion Sugar Company, Inc.	1,640
Vida Sugars, Inc.	3,539
A. Wilbert's Sons Lbr. & Sh. Co.	7,029
Young's Industries, Inc.	4,899
Louisiana State University	100
Total	500,000

KEMPER

(Continued from page 7)

manager in which position he served until 1944.

His ability as an administrator and executive became well known beyond the confines of the Louisiana sugar industry, and in 1944 he accepted the position of assistant to the president of South Puerto Rico Sugar Company. He served that Company with distinction in Puerto Rico and New York during a period of six years.

Louisiana could not afford to permanently lose Wallace and in July 1950 he returned home as president of Southdown Sugars, Inc., which position he presently holds.

Although serving in positions of great responsibility which took heavily of his time, his love for the Louisiana sugar industry as a whole and his interest in its welfare, coupled with his active mind, physical energy and desire to meet every challenge, would not permit him to remain aloof from industry problems and activities.

On September 24, 1931, he was elected to membership on the Executive Committee of the American Sugar Cane League, which membership he has held continuously until this date, except during the six year period from 1944 to 1950 while he was employed in Puerto Rico and New York. In 1935 he was elected 3rd Vice President of the League; in 1937, 2nd Vice President; in 1939, 1st Vice President; and on September 25, 1941 he became its President. His father "Del" Kemper, had previously served this organization as its president, and "Del" and Wallace have the distinction of being the only father and son who have been so honored, just as they are the only father and son who have been awarded life memberships.

Wallace served as President until September 30, 1943. This was during the first two very crucial years of this nation's participation in World War II, when the production of domestic sugar meant so much to

the welfare of our nation and its allies. During this period a substantial part of his time was devoted to industry affairs and the extraordinary problems provoked by the war, both of an internal nature as well as on a national and international level. He represented Louisiana efficiently and tirelessly, on most of the industry committees created by our national government, designed to increase the production and direct the distribution of sugar.

He was one of the original members of the Board of Directors of the Sugar Research Foundation, there representing the Louisiana sugar industry. He is presently not only a member of that board, but is a vice president of the Foundation and serves on its executive committee.

His ability has been recognized by our national government. In 1953 he was appointed by the Department of State of the United States to serve as one of the three industry advisors to the State Department at London, England, in the preparation of the International Sugar Agreement. This is a distinction which in itself indicates the outstanding ability and accomplishments of Wallace Kemper.

I have left to last reference to his services as Chairman of the Legislative Committee of the American Sugar Cane League. He has served in this capacity on three occasions. The first time was just prior to his term as President of the League. The second time was immediately following his term as President. Again, in September 1954, when it had become apparent that for the Louisiana sugar cane growers and processors to survive as an industry, an amendment to the Sugar Act increasing the statutory quota of the mainland cane sugar area was absolutely essential, Wallace Kemper was appointed chairman of the Legislative Committee to plan and lead the fight. This has probably been his most difficult assignment. The Department of State was opposed to any increase; the Department of Agriculture was completely uncooperative; foreign interests were opposed; the refiners and industrial users were opposed; and the attitude of the remaining sugar producing areas ranged from one of indifference to opposition.

I need not recount to you the events of such recent history. Although these efforts have not as yet been crowned with success, it appears the significant and strategic battles have been fought and won. The domestic areas are now in agreement; the Department of State and the Department of Agriculture have agreed to a quota increase in 1956; the House of Representatives of the Congress of the United States prior to its recent adjournment passed a bill granting quota relief. Time did not permit its passage in the Senate prior to adjournment. However, it now appears inevitable that the necessary action will be taken soon after the Congress reconvenes in January.

In this accomplishment great credit must be given to our congressional delegation and to other individuals in the industry. However, as one who was on the field of battle during a part of the fight I can say without doubt or equivocation that if this effort is successful, and it most surely will be, the primary credit must be attributed to Wallace Kemper, the man who led and directed this campaign. Without his mind, his perseverance, his ingenuity, his refusal to admit defeat when defeat appeared inevitable, and his pleasing and forcible personality, all efforts would have been of no avail.

Wallace, the American Sugar Cane League takes note of the fact you have answered every call of the industry, and they have been many. You have volunteered to take assignments which the ordinary individual would dread and the timid would not venture. When the outlook was dismal and the way ahead complex, you have assumed a posi-

(Continued on next page)

tion of leadership in directing the industry's course, often on uncharted seas. You have performed each task with intelligence and efficiency. Considering the problems ahead, the industry is fortunate that these expressions are not as an obituary, but merely a milestone in your eventful and successful career. A real challenge always lies ahead.

And now, at the direction of the Executive Committee and on behalf of all the members, I present to you, Wallace Clegg Kemper, this certificate and key, evidencing and emblematic of Life Membership in the American Sugar Cane League.

—o—

REPORT

(Continued from page 6)

harvester at the USDA Experiment Station in Houma has been in progress for several years. The Federal appropriations for this work have been inadequate and the League has supplemented the Government appropriations with League funds.

The experimental work on the cane planter has been financed by the League for the past two years and trials conducted this year indicate real progress has been made in developing a practical cane planter.

Our industry has already profited greatly by research work on surface drainage. The drainage and deep tillage research project being conducted cooperatively by the United States Department of Agriculture and the Louisiana State Experiment Station has never received adequate financial support from the Federal and State governments although we have been successful in getting increased funds from these two sources. At the last meeting of our Executive Committee we authorized the expenditure of funds needed to complete the equipping of a new soil physics laboratory to be used in connection with the research work on drainage and deep tillage.

The League has spent substantial sums of money on experiments to find a practical method for the control of the Stunting Disease. Cane farmers are now applying the results of this research work and we have great hopes that the control of this disease will mean a sizable increase in our cane yields.

In addition to the items I have already mentioned, the League's Agronomist and special committees of the League work with Federal and State scientists on many other phases of the sugar cane research program.

Next year we expect to pay part of the expenses of a Louisiana sugar cane scientist on a trip he will take to study the sugar industries of India, Australia, and Hawaii to gather information that will benefit every Louisiana sugar cane farmer.

As you know, the Sugar Act regulates the sugar industry in many ways, and the Government conducts many public hearings to get ideas from the sugar industry on how the Sugar Act should be administered. Attending these hearings and preparing and presenting Louisiana's case is another activity that consumes considerable time and money.

In November of last year the League's representative testified at a public hearing in Washington concerning sugar prices and will testify at a similar hearing in November of this year.

In July of this year the Government conducted a public hearing in New Orleans to get recommendations on how much cane Louisiana and Florida should be allowed to harvest in 1956. The League's spokesman urged the Government not to reduce our cane acreage any further.

Also in July of this year the Government held a hearing in Thibodaux to get advice on what wage rates Louisiana cane farmers should be required to pay their labor. The League recommended that there be no increase in the minimum wage rates during the harvest of the 1955 crop and the cultivation of the 1956 crop.

The railroads are always trying to increase freight rates on sugar

cane, sugar, and blackstrap molasses, and the League is constantly fighting these increases. The general increase in intrastate freight rates on our products, which went into effect during the last crop, was successfully postponed for several years by the League. A number of attempts this year to increase interstate freight rates on sugar and molasses have been defeated by the League and we have even been able to get reductions in the rates to some destinations.

The very existence of the Louisiana sugar industry depends upon the orderly and timely prosecution of an adequate plan to control flood waters in the Atchafalaya River and the Atchafalaya Basin Floodway. The League continues to work with Congress in obtaining appropriations for this work and is co-operating with the Army Engineers in carrying out the work. As President of the League, I testified on this subject earlier this month at a public meeting in Plaquemine called by the Corps of Engineers of the U. S. Army.

Aside from the activities of our Washington office in the quota fight, other legislation required constant attention. Joe Ferris, Manager of our Washington office, is to be congratulated on the fine job that he has done for us in Washington. Joe is doing a splendid job of coordinating the efforts of the combined Louisiana and Florida delegations in the Senate and House of Representatives in connection with legislation of importance to the Mainland Cane sugar industry. With the help of our members of Congress he is presently urging the U. S. Department of Agriculture to proceed with the proposed purchase of 100,000 tons of surplus sugar now being held by the continental producers. The Washington office is indeed a very important cog in the machinery of the American Sugar Cane League.

Since our last Annual Meeting the pages of *The Sugar Bulletin* have chronicled the passing of a number of prominent personalities in the Louisiana Sugar Industry. Louis J. Wilbert died on October 18, 1954 to be followed by Charles Godchaux on October 23rd. On January 8th, 1955 Hugh Junca, Sr. passed away and H. Langdon Laws died on March 30th. Clarence J. Savoie's death occurred on June 25th and E. J. Caire was called to the Great Beyond on July 16th. All of these gentlemen at some time in their careers were prominent in the affairs of the Louisiana Sugar Industry and we sorely miss them. Mr. Wilbert was an active member of our Executive Committee at the time of his death.

In July the Executive Committee unanimously voted to bestow the League's highest honor, an Honorary Life Membership, on the able Chairman of our Legislative Committee, Mr. Wallace C. Kemper. This action was taken in recognition of the very fine work that Mr. Kemper has done, and still is doing, to obtain additional quota for Louisiana under the Sugar Act. His unselfish devotion to our cause throughout the past two years has brought us to the brink of success and he most certainly has earned the right to be included in the League's "Hall of Fame". Incidently, Wallace is the second Kemper to be elected a Life Member of the League. Sixteen years ago his father, the late Charles Delaware Kemper, also received this honor.

On January 1st of this year we began printing *The Sugar Bulletin* on paper made with sugarcane bagasse by the Valentine Pulp and Paper Company of Lockport, La. The successful operation of this plant is certainly a significant development in the history of the Louisiana sugar industry and should be included in this report.

In closing I would like to express my appreciation, and I am sure the appreciation of the entire Louisiana sugar industry, of the work that has been done by the Chairman and members of the more than 20 com-

(Continued on next page)

mittees of the League who have been called upon to tackle the many problems that seem to always be with us. I also want to extend my personal thanks to the employees of the League for their good work. The American Sugar Cane League is indeed fortunate to have its affairs in such capable hands.

Again let me say that it has been an honor and a privilege to serve as your president.

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IN WASHINGTON

(Continued from page 5)

Proportionate Shares for Beets

The U. S. Department of Agriculture has announced a total of approximately 850,000 acres for the Continental Beet Sugar Area 1956 crop. This is the same total objective as for the 1955 crop. Except for 500 acres set aside as a national reserve, the entire acreage has been allocated to States.

Curtailment of the 1956 crop is required because of a carryover of sugar from previous crops and an anticipated heavy demand for sugar beet acreage, the Department said. It is understood that the allocations announced contemplate a production about equal to marketing limits under the quota.

The State acreage allocations are based on 1955-crop allocations (recomputed to give effect to final 1954 planted acreages) with limited downward adjustments for States in which 1955-crop plantings did not reach 95 percent of the recomputed allocations and with corresponding pro rata increases for the other States. Since the under-plantings for the most part resulted from special temporary conditions, the downward adjustments have been limited as follows:

The recomputed 1955-crop allocation was used as a base acreage for each State wherein the 1955-crop planted acreage equalled or exceeded 95 percent of such allocation. For each of the other States, a base acreage was established equal to the larger of (a) 95 percent of the recomputed 1955-crop allocation or (b) 105.3 percent (100 divided by 95) of the 1955-crop planted acreage. The resulting base acreages were adjusted pro rata to a total of 849,500 acres.

Agricultural Stabilization and Conservation State Committees are authorized to establish individual farm proportionate shares for 1956 from State allocations under specified general standards and procedure, which are similar to those ef-

fective for the 1955 crop. It is expected that in most States the same proportionate share areas and formulae will be used. Thus, with an identical national acreage objective, the shares for individual farms will be generally comparable to those effective for the current crop.

Sugar Rationed Again

Sugar, sugar everywhere, but not a pound can you buy. That statement is not absolutely true, but it almost is in several beet sugar areas. A number of beet sugar companies have marketed all of their 1955 quota sugar and, consequently, cannot sell any more until January 1, 1956. Although beet processors have on hand thousands of tons of beet sugar, their customers are having to "import" cane sugar. Some beet sugar companies have refrained from selling their entire quota, but have placed their customers on a "ration" basis.

—o—

IN THE FIELD

(Continued from page 4)

of the absence of Johnson grass, reduction of the pest for the next crop, and the reduction in the amount of hand labor needed.

Growers with heavy infestations of Johnson grass who are not using chemicals should ask themselves some of these questions. Is hand hoeing controlling Johnson grass? What is the labor bill for hand hoeing? How much cane does hand hoeing destroy or cut out? Can hand labor distinguish, at all times, between Johnson grass and sugarcane? How soon after hoeing does the Johnson grass reappear? Is the amount of grass lessened for the next crop by the hand hoe?

Remember Johnson grass robs the sugar cane of sunlight, moisture, fertilizer and space. Control this pest and increase yields.

[1] This is the actual amount to be used per acre of cane.

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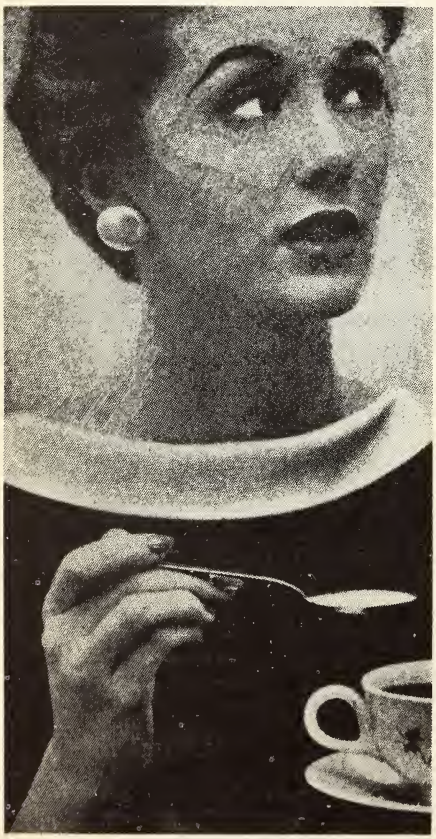
How many calories in a spoonful of sugar?



200 ☐ 100 ☐ 50 ☐ 18 ☐

Some guess as high as 600, but the right answer is only 18 calories in a level teaspoonful

If you are counting calories, this fact is even more important–

Sugar can help you cut down on the number of calories you eat

Research findings show how raising your blood sugar level helps keep your appetite–and weight–under control

This is one of a series of advertisements of Sugar Information Incorporated designed to counteract some of the false propaganda being utilized by anti-sugar groups.

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In This Issue

Up Front With The League 19
Determinations—Fair Price—Wage Rates—Proportionate Shares

In The Field With Lloyd L. Lauden 20
Crop Condition

Fair Price Determination For The 1955-56 Crop 21

Wage Determination For Harvesting 1955 Crop And Cultivation During 1956 24

1956 Crop Proportionate Shares 26

Losses From Delay In Delivering Harvested Cane 29

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in the interests of the Domestic Sugar Cane Industry

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UP FRONT WITH THE LEAGUE

by

A. W. DYKERS

Determinations

Monday, October 10th which, henceforth, will probably be known in Louisiana and Florida cane growing circles as "Black Monday", must have been a busy day in the Washington Office of the Sugar Branch. The Louisiana Fair Price Determination, the Louisiana Harvesting and Cultivating Wage Rates Determination, and the Proportionate Shares Acreage Determination for Louisiana and Florida all were spawned on that day.

We are printing all three determinations in this issue. The Fair Price begins on page 21, Wage Rates begins on page 24 and the Acreage order that practically removed the sun from the Louisiana and Florida skies begins on page 26.

You should by all means read all three determinations but in case you run out of time here are the major changes according to the Government's statement of "bases and considerations."

Fair Price

The 1955 price determination differs from the 1954 determination in that the raw sugar pricing period used as a basis for computing the paying for sugarcane has been extended to cover a period of approximately seven months. The dates are October 7th 1955 through April 26, 1956. (The pricing period for blackstrap molasses ends on February 23rd, 1956).

The area freight rate differentials have been readjusted to compensate processors for an increase in freight rates on raw sugar.

This season the mills located north of Bayou Goula between the Atchafalaya and Mississippi Rivers and southeast of New Iberia west of the Atchafalaya River will be allowed to deduct 0.097 cents from the price of sugar for cane settlement purposes. Mills located north and west of the Atchafalaya River will be allowed to deduct 0.147 cents, and all other mills will be allowed to deduct 0.022 cents to compensate for the increased freight rates.

The definition of standard sugarcane has been revised downward 1/2 a point to reflect a closer relationship to sugar recoveries.

Blackstrap Molasses payments to growers this season will be based on 7.2 gallons per ton of cane instead of the 7.1 used last year.

The rest of the Fair Price rules are unchanged.

Wage Rates

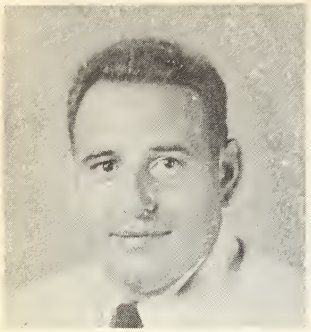
The Wage Determination differs from that of 1954 in that wage rates on a time basis are increased on the average by about five percent and are expressed on an hourly basis instead of a 9-hour-day basis.

Piecework rates for hand harvesting have been increased by about 10 percent.

The wage-price escalator provision has been eliminated, and the provision requiring producers to furnish workers the customary perquisites has also been eliminated.

N. Co. 310 has been added to the large barrel cane category for piecework rate purposes.

(Continued on page 31)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Crop Condition

If the Louisiana sugar industry ever looked into a crop with any better expectations of larger yields per acre than this crop it was way back in 1904 when Louisiana produced an average of 26 tons per acre.

The nearest crop to the 1904 crop, on the basis of tons of cane per acre, was the crop harvested last year, with an average of 22.75 net tons of cane per acre.

Reports from the field indicate that the 1955 crop will be as large as, or larger than, the 1954 crop from the standpoint of net tons of cane ground. If this is true then the average for the industry, on the per acre basis, will be higher than last year's figure because this crop is being grown on less acreage than the 1954 crop.

Sucrose and purity tests taken during the last week of September were not as good as those taken at the same time last year. Reports from tests taken on the Teche and the Upper River Area appear better than the Lafourche, Terrebonne, and Lower River Areas. The Northern, or Bunkie, area has not been heard from regarding sucrose and purity this year.

Frequent late rainfall and warm days and nights have caused cane to continue growth. The U.S.D.A. growth records indicate that cane grew more during the week ending Oct. 6 than during the week ending September 29.

The cool days and nights which started Oct. 7th, should check growth and have a beneficial affect on sucrose.

Reports from mills indicate that the starting date for grinding will be later than the starting date was last year.

A considerable amount of cane is going down this year. An inspection made, plus reports received, indicated that lodging has been observed to some degree in all varieties both in plant and in stubble. From observation N. Co. 310, 44-155, and 44-154 appear to be lodged to the greater extent. These three canes lodge to some extent in some areas each year, but not to this extent, and not this early in the year.

The frequency of rainfall during the growing season which was conducive to shallow rooting, the heavy rainfall during the last month, the extra heavy tonnage in the field, the heavy green foliage at this time, plus moderately strong winds are responsible for the unusual amount of lodging that is taking place.

A visit to Mr. Rene LeBlanc's Farm at Lockport, La. tells the writer that the Louisiana sugar industry can make better tonnage. Mr. LeBlanc has 4th, 5th, and 6th year stubble and a sizeable quantity of 8th year stubble. His average yield last year was above 38 tons per acre. He had about 200 acres in cane last year and the average yield mentioned is not unusual for Mr. LeBlanc. The writer saw 8th year stubble, 36-105, in fairly heavy soil that will yield at least 35 tons per acre.

FAIR PRICE DETERMINATION FOR THE 1955-56 CROP

(Issued October 10, 1955)

TITLE 7—AGRICULTURE

Chapter VIII—Commodity Stabilization Service (Sugar) Department of Agriculture

Subchapter I — Determination of Prices

(Sugar Determination 874.8)

PART 874—SUGARCANE: LOUISIANA 1955 CROP

Pursuant to the provisions of section 301 (c) (2) of the Sugar Act of 1948, as amended, (herein referred to as "Act"), after investigation, and due consideration of the evidence presented at the public hearing held in Thibodaux, Louisiana, on July 29, 1955 and September 7, 1955, the following determination is hereby issued:

§ 874.8 *Fair and reasonable prices for the 1955 crop of Louisiana sugarcane.* A producer of sugarcane in Louisiana who is also a processor of sugarcane (hereinafter referred to as "processor") shall have paid, or contracted to pay, for sugarcane of the 1955 crop grown by other producers and processed by him, prices determined in accordance with the following requirements:

(a) *Definitions*: For the purpose of this determination, the term:

(1) "Price of raw sugar" means the price of 96° raw sugar quoted by the Louisiana Sugar Exchange, Inc.; except that if the Director of the Sugar Division determines that such price does not reflect the true market value of sugar, because of inadequate volume, failure to report sales in accordance with the rules of such Exchange or other factors, he may designate the price to be effective under this determination, which he determines will reflect the true market value of sugar.

(2) "Price of blackstrap molasses" means the price per gallon of blackstrap molasses quoted by the Louisiana Sugar Exchange, Inc.; except that if the Director of the Sugar Division determines that such price does not reflect the true market value of blackstrap molasses, because of inadequate volume, failure to report sales in accordance with the rules of such Exchange or other factors, he may designate the price to be effective under this determination, which he determines will reflect the true market value of blackstrap molasses.

(3) "Standard sugarcane" means sugarcane, free of trash, containing 12 percent sucrose in the normal juice with a purity of at least 76.00 but not more than 76.49.

(4) "Net sugarcane" means the quantity of sugarcane obtained by deducting the weight of trash from the combined weight of sugarcane and trash delivered by a producer.

(5) "Salvage sugarcane" means sugarcane containing either less than 9.5 percent sucrose in the normal juice or less than 68 purity in the normal juice.

(6) "Trash" means green or dried leaves, loose sugarcane tops, attached sugarcane tops at or above the green leaf roll, dirt and all other extraneous material which is representative of the quantity of sugarcane from which the sample for trash determination is taken.

(b) *Basic Price*:

(1) The basic price for standard sugarcane shall be not less than $1.06 per ton for each one-cent per pound of the average price of raw sugar determined in accordance with either of the following as agreed upon:

(i) The simple average of the daily prices of raw sugar for the week in which the sugarcane is

(Continued on next page)

delivered; or

(ii) The simple average of the weekly prices of raw sugar for the period October 7, 1955 through April 26, 1956; *Provided,* That the average price of raw sugar as determined under subdivisions (i) or (ii) of this subparagraph may be reduced by not more than the following:

(*a*) 0.022 cent for all mills except those located in the areas defined in (*b*) and (*c*) below;

(*b*) 0.097 cent for mills located north of Bayou Goula between the Atchafalaya and Mississippi Rivers and southeast of New Iberia west of the Atchafalaya River; or

(*c*) 0.147 cent for mills located north and west of New Iberia west of the Atchafalaya River.

(2) The basic price for salvage sugarcane shall be as agreed upon between the processor and the producer, subject to the approval of the State Administrative Officer of the Louisiana State Agricultural Stabilization and Conservation Office (hereinafter referred to as "State Officer.")

(c) *Conversion of net sugarcane to standard sugarcane.* Net sugar (except for salvage sugarcane) shall be converted to standard sugarcane as follows:

(1) By multiplying the quantity of net sugarcane by the applicable quality factor in accordance with the following table:

Percent sucrose in normal juice of net sugarcane	Standard sugarcane quality factor [1]
9.5	.60
10.0	.70
10.5	.80
11.0	.90
11.5	.95
12.0	1.00
12.5	1.05
13.0	1.10
13.5	1.15
14.0	1.20
14.5	1.25

[1] The quality factor for sugarcane of intermediate percentages of sucrose in normal juice shall be interpolated and for sugarcane having more than 14.5 percent sucrose in the normal juice shall be computed in proportion to the immediately preceding interval.

and,

(2) By multiplying the quantity determined pursuant to subparagraph (1) of this paragraph by the applicable purity factor in the accompanying table:

(d) *Molasses payment.* For each ton of net sugarcane (except salvage sugarcane) there shall be paid an amount equal to the product of 7.2 and one-half of the average price per gallon of blackstrap molasses in excess of 6 cents. The average price of blackstrap molasses shall be either the simple average of the daily prices for the week in which the sugarcane is delivered, or the simple average of the weekly prices of blackstrap molasses for the period October 7, 1955 through February 23, 1956, as agreed upon between the processor and the producer.

(e) *General*

(1) The sucrose and purity of the normal juice shall be determined by acceptable methods of analysis on sugarcane as delivered, such methods to be subject to the approval of the State Officer.

(2) Because of decreased boiling house efficiency deductions may be made from payment for frozen sugarcane accepted by the processor provided such deductions are at the rates not in excess of 1.5 percent of the payment, computed without regard to the molasses payment, for each 0.1 cc. of acidity above 2.50 cc. of N/10 alkali per 10 cc. of juice but not in excess of 4.75 cc. (intervening fractions are to be computed to the nearest multiple of 0.05 cc.). Frozen sugarcane testing in excess of 4.75 cc. of acidity shall be considered as having no value. Sugarcane shall not be considered as frozen, even after being subjected to freezing temperature, unless and until there is evidence of damage having taken

place because of the freeze, such evidence to be certified by the State Officer.

(3) In the event a general freeze causes abnormally low recoveries of raw sugar by a processor in relation to the sucrose and purity tests of sugarcane, payment for each sugarcane may be made as mutually agreed upon between the producer and the processor, subject to approval by the State Officer: *Provided,* That the payment for each ton of net sugarcane shall be not less than an amount equal to the total returns from raw sugar and molasses actually recovered from such sugarcane, determined on the basis of the simple average of the weekly price of raw sugar for the period October 7, 1955 through April 26, 1956 and the simple average of the weekly prices of blackstrap molasses for the period October 7, 1955 through February 23, 1956, less an amount not to exceed $3.00 per gross ton of sugarcane for processing and less actual costs of hoisting, field weighing and transporting such sugarcane.

(4) A processor who paid the costs for hoisting and weighing sugarcane of the 1954 crop shall also pay such costs with respect to the 1955 crop: *Provided,* That nothing in this subparagraph shall be construed as prohibiting negotiations with respect to such costs, any charge to be approved by the State Officer.

(5) A processor who made allowances to producers for transporting sugarcane from the customary delivery points to the mill for the 1954 crop, shall also make

(Continued on page 31)

Purity of Normal Juice		STANDARD SUGARCANE PURITY FACTOR[1] Percent Sucrose in Normal Juice															
		At least 9.50	9.70	9.90	10.10	10.30	10.50	11.00	11.50	12.00	12.50	13.00	13.50	14.00	14.50	15.00	15.50
At Least	But not more than	But not more than 9.69	9.89	10.09	10.29	10.49	10.99	11.49	11.99	12.49	12.99	13.49	13.99	14.49	14.99	15.49	15.99
68.00	68.24	1.000	.989	.978	.967	.956	.945	.936	.929	.922	.915	.908	.901	.894	.887	.880	.873
68.25	68.49	1.005	.993	.982	.971	.960	.949	.941	.934	.927	.920	.913	.906	.899	.892	.885	.878
68.50	68.74	1.010	.998	.987	.976	.965	.954	.945	.938	.931	.924	.917	.910	.904	.897	.890	.884
68.75	68.99	1.016	1.003	.992	.981	.970	.959	.950	.943	.936	.929	.922	.915	.909	.902	.896	.890
69.00	69.49	1.021	1.009	.997	.986	.975	.964	.955	.948	.941	.934	.927	.920	.914	.908	.902	.896
69.50	69.99	1.025	1.013	1.001	.990	.979	.968	.960	.953	.945	.938	.931	.924	.918	.912	.906	.900
70.00	70.49	1.030	1.018	1.006	.995	.984	.973	.965	.958	.950	.943	.936	.929	.923	.917	.911	.905
70.50	70.99	1.035	1.023	1.011	.999	.988	.977	.969	.962	.954	.947	.940	.933	.927	.921	.915	.909
71.00	71.49	1.040	1.028	1.016	1.004	.993	.982	.974	.966	.959	.951	.945	.938	.932	.926	.920	.914
71.50	71.99	1.045	1.033	1.021	1.009	.998	.987	.978	.970	.963	.955	.949	.942	.936	.930	.924	.918
72.00	72.49	1.050	1.038	1.026	1.014	1.003	.992	.983	.975	.967	.960	.954	.947	.940	.934	.928	.922
72.50	72.99	1.055	1.043	1.031	1.019	1.007	.996	.987	.979	.971	.964	.958	.951	.944	.938	.932	.926
73.00	73.49	1.060	1.048	1.036	1.024	1.012	1.000	.991	.984	.976	.968	.962	.955	.948	.942	.936	.930
73.50	73.99	1.065	1.052	1.040	1.028	1.016	1.004	.995	.988	.980	.972	.966	.959	.952	.946	.940	.934
74.00	74.49		1.057	1.044	1.032	1.020	1.008	1.000	.992	.984	.977	.970	.963	.956	.950	.944	.938
74.50	74.99		1.062	1.049	1.036	1.024	1.012	1.004	.996	.988	.981	.974	.967	.960	.954	.948	.942
75.00	75.49			1.054	1.041	1.028	1.016	1.008	1.000	.992	.985	.978	.971	.964	.958	.852	.946
75.50	75.99			1.059	1.046	1.033	1.020	1.011	1.004	.996	.988	.981	.974	.967	.961	.955	.949
76.00	76.49				1.051	1.038	1.025	1.015	1.008	1.000	.992	.985	.978	.971	.965	.959	.953
76.50	76.99				1.054	1.041	1.028	1.019	1.011	1.004	.996	.989	.981	.975	.969	.963	.957
77.00	77.49					1.045	1.032	1.023	1.015	1.008	1.000	.993	.985	.979	.973	.967	.961
77.50	77.99					1.049	1.035	1.027	1.019	1.011	1.003	.996	.989	.982	.976	.970	.964
78.00	78.49						1.039	1.031	1.023	1.015	1.007	1.000	.993	.986	.980	.974	.968
78.50	78.99						1.042	1.035	1.026	1.018	1.010	1.003	.996	.989	.983	.977	.971
79.00	79.49							1.039	1.030	1.022	1.014	1.007	1.000	.993	.987	.981	.975
79.50	79.99							1.043	1.033	1.025	1.017	1.010	1.003	.996	.990	.984	.978
80.00	80.49								1.037	1.029	1.021	1.014	1.007	1.000	.994	.988	.982
80.50	80.99								1.040	1.032	1.024	1.017	1.010	1.003	.997	.991	.985
81.00	81.49									1.036	1.028	1.021	1.014	1.006	1.000	.994	.988
81.50	81.99									1.039	1.032	1.024	1.017	1.009	1.003	.997	.991
82.00	82.49										1.035	1.027	1.020	1.013	1.007	1.000	.995
82.50	82.99										1.038	1.030	1.023	1.016	1.010	1.004	.998
83.00	83.49											1.033	1.027	1.019	1.013	1.007	1.000
83.50	83.99											1.036	1.030	1.022	1.016	1.010	1.004
84.00	84.49												1.033	1.025	1.019	1.013	1.007
84.50	84.99													1.028	1.022	1.016	1.010

[1] Factors applicable to higher sucrose and purity of the normal juice than shown in this table shall be determined by the same method of calculation used to compute the factors specified and shall be furnished by the Louisiana State ASC Office, Alexandria, Louisiana upon request.

WAGE DETERMINATION FOR HARVESTING 1955 CROP AND CULTIVATION DURING 1956

(Issued October 10, 1955)

TITLE 7—AGRICULTURE

Chapter VIII—Commodity Stabilization Service (Sugar) Department of Agriculture

Subchapter H—Determination of Wage Rates

(Sugar Determination 864.3)

Part 864—SUGARCANE: WAGE RATES: LOUISIANA FAIR AND REASONABLE WAGES: HARVESTING—1955 CROP: PRODUCTION AND CULTIVATION CALENDAR YEAR 1956

Pursuant to the provisions of section 301 (c) (1) of the Sugar Act of 1948, as amended, (herein referred to as "act"), after investigation, and consideration of the evidence obtained at the public hearing held in Thibodaux, Louisiana, on July 29, 1955, the following determination is hereby issued:

864.3 *Fair and reasonable wage rates for persons employed in Louisiana in the harvesting of the 1955 crop of sugarcane and production and cultivation of sugarcane during the calendar year 1956.*

(a) *Requirements.* A producer of sugarcane in Louisiana shall be deemed to have complied with the wage provisions of the act if all persons employed on the farm in the harvesting of the 1955 crop of sugarcane and the production and cultivation of sugarcane during the calendar year 1956 shall have been paid in accordance with the following:

(1) *Wage Rates.* All such persons shall have been paid in full for all such work and shall have been paid wages in cash therefor at rates as agreed upon between the producer and the worker, but not less than the rates specified below. Wage Rates applicable to the harvesting of the 1955 crop shall be effective on the date of publication of this section in the Federal Register and wage rates applicable to production and cultivation of sugarcane during the calendar year 1956 shall be effective on January 1, 1956.

(i) *For work performed on a time or piecework basis:*

Class of Worker or Operation	Rate per Hour
Harvest of 1955 Crop	
Cutters, toppers, strippers, scrappers	$ .475
Loaders, spotters, ropemen, grabmen	.550
Cutters and loaders, pilers, hoist operators	.500
Tractor drivers, truck drivers	.575
Teamsters	.550
Operators of mechanical loading or harvesting equipment	.625
All other harvesting workers	.425
	Rate per ton
Cutting top and bottom:	
Large barrel varieties [1]	$1.000
Small barrel varieties [2]	1.200
	Rate per Hour
Production and Cultivation, calendar year 1956	
Tractor drivers	$ .500
All other production and cultivation workers	.400

(ii) *Workers between 14 and 16 years of age when employed on a time basis.* For workers between 14 and 16 years of age, the wage rate per hour (maximum employment is 8 hours per day for such workers without deduction from Sugar Act payments to the producer) shall be not less than three-fourths of the applicable hourly wage rate for adults provided under subdivision (i) of this subparagraph.

(iii) *Other piecework rates.* The

[1] Large barrel varieties: Co. 290, C. P. 29/103: C. P. 29/116: C. P. 32/243: C. P. 36/13: C. P. 36/105: C. P. 29/120: C. P. 43/47: C. P. 44/101: C. P. 44/155: and N. Co. 310.

[2] Small barrel varieties: All other.

piecework rate for any operator specified in subdivision (i) of this subparagraph, when performed on a unit basis other than a ton, or the piecework rate for any operation not specified shall be that as agreed upon between the producer and the worker: *Provided.* That for such agreed upon piecework rate the hourly rate of earnings of each worker, for the time involved, shall not be less than the applicable hourly rate specified in subdivisions (i) and (ii) of this subparagraph.

(2) *Compensable working time.* For work performed under subparagraph (1) of this paragraph, compensable working time includes all time which the worker spends in the performance of his duties except time taken out for meals during the work day. Compensable working time commences at the time the worker is required to start work and ends upon completion of work in the field. However, if the producer requires the operator of mechanical equipment, driver of animals, or any other class of worker to report to a place other than the field, such as an assembly point, tractor shed, etc., located on the farm, time spent in transit to and from the field is compensable working time. Any time spent in performing work directly related to the principal work performed by the worker, such as servicing equipment, is compensable working time. Time of the worker while being transported from a central recruiting point or labor camp to the farm is not compensable working time.

(3) *Equipment necessary to perform work assignment.* The producer shall furnish without cost to the worker any equipment required in the performance of any work assignment. However, a charge may be made for equipment furnished any worker for the cost of such equipment in the event of its loss or destruction through negligence of the worker. Equipment includes, but is not limited to, hand and mechanical tools and special wearing apparel, such as boots and raincoats, required to discharge the work assignment.

(b) *Subterfuge.* The producer shall not reduce the wage rates to workers below those determined herein through any subterfuge or device whatsoever.

(c) *Claim for unpaid wages.* Any person who believes he has not been paid in accordance with this determination may file a wage claim with the local County Agricultural Stabilization and Conservation Office against the producer on whose farm the work was performed. Detailed instructions and wage claim forms are available at that office. Such claim must be filed within two years from the date the work with respect to which the claim is made was performed. Upon receipt of a wage claim the county office shall thereupon notify the producer against whom the claim is made concerning the representation made by the worker. The county ASC Committee shall arrange for such investigation as it deems necessary and the producer and worker shall be notified in writing of its recommendation for settlement of the claim. If either party is not satisfied with the recommended settlement, an appeal may be made to the State Agricultural Stabilization and Conservation Office, 1517 Sixth Street, Alexandria, Louisiana, which shall likewise consider the facts and notify the producer and worker in writing of its recommendation for settlement of the claim. If the recommendation of the State ASC Committee is not acceptable, either party may file an appeal with the Director of the Sugar Division Commodity Stabilization Service, U. S. Department of Agriculture, Washington 25, D. C. All such appeals shall be filed within 15 days after receipt of the recommended settlement from the respective committee, otherwise such recommended settlement will be applied in making payments under the act. If a claim is

(Continued on page 31)

1956 CROP PROPORTIONATE SHARES

(Issued October 10, 1955)

TITLE 7—AGRICULTURE
Chapter VIII—Commodity Stabilization Service (Sugar Division)
Subchapter G—Determination of Proportionate Shares
(Sugar Determination 855.3)
PART 855—MAINLAND CANE SUGAR AREA
1956 Crop

Pursuant to the provisions of section 302 of the Sugar Act of 1948, as amended (hereinafter referred to as "act"), the following determination is hereby issued:

§ 855.3 *Proportionate shares for sugarcane farms in the Mainland Cane Sugar Area for the 1956 crop:*

(a) *Farm proportionate share.* A 1956-crop proportionate share for each sugarcane farm in the mainland cane sugar area shall be established in terms of acres [acreage or acres as used herein means the area on which sugarcane is grown on the farm and marketed (or processed) for the extraction of sugar or liquid sugar, or harvested for seed, and the area of sugarcane abandoned and classified as bona fide abandonment under procedure issued by the Commodity Stabilization Service] as follows:

(1) *Farm Bases.* The farm base for each farm for which a proportionate share was established pursuant to § 855.2 (Determination of Proportionate Shares for the 1955 Crop) shall be such share, except that if the 1955 acreage on any farm was less than 80 percent of its 1955 proportionate share, due to a cause other than drought, flood, storm, freeze, disease, or insects, as determined by the appropriate Agricultural Stabilization and Conservation County Committee (hereinafter referred to as County Committee) the base shall be the larger of 5 acres or 125 percent of such 1955 acreage.

(2) *Farms with bases.* The proportionate share for any farm for which a farm base is established under subparagraph (1) of this paragraph shall be the largest of (i) 5 acres; (ii) the farm base, but not in excess of 25.0 acres; and (ii) 87.0 percent of such farm base.

(3) *New farms.* The proportionate share for any farm without a farm base and on which there was no sugarcane acreage during the 1955-crop year, shall be 5.0 acres.

(4) *Transfer of farm bases.* (i) *Land acquired by Federal or State Agency.* The base established, or which would have been established pursuant to subparagraph (1) of this paragraph for any land which is removed from sugarcane production because of acquisition by purchase or lease by any Federal or State Agency having the right of eminent domain shall be available for use in providing an equitable base for land owned, purchased, or leased by the owner of the land so acquired by any of such agencies. Upon application to the appropriate Agricultural Stabilization and Conservation State Office (hereinafter referred to as State Office) within five years from the date of such acquisition, any such owner shall be entitled to a base for any other land owned, purchased, or leased by him equal to the farm base which would have been established for such other land, plus the farm base which would have been established for the land so acquired, as determined by the appropriate State Office.

(ii) *Dividing or combining ownership tract acreage records.* Where an ownership tract of land (a farm or a portion of a farm which is separately owned) which was part of a farm as constituted for the 1955 program becomes a part of another farm or a separate farm under the 1956 program, a base for such tract shall be determined by multiplying the 1955 proportionate share for the

farm of which such tract was a part by the percentage that the total acreage of sugarcane for the tract for the crop years 1951-54 plus the 1955 measured acreage within the proportionate share is of the total sugarcane acreage within the farm's proportionate shares in this period for all tracts comprising the 1955 farm of which it was a part. Where an ownership tract of land which was part of a 1955 farm is subdivided, the base for each subdivision shall be determined by multiplying the base established for the tract in accordance with the above method by the percentage that the total cropland acreage in each subdivision of the tract suitable for the production of sugarcane is of the total acreage of such cropland in the tract. Where a 1955 farm consisting of one ownership tract is subdivided, the base for each subdivision shall be obtained by multiplying the 1955 proportionate share by the percentage that the total cropland acreage suitable for the production of sugarcane in each subdivision of the tract is of the total acreage of such cropland in the ownership tract. Where the County Committee determines that the use of the cropland relationships in any case results in the establishment of a base which is not representative of the crops growing on the 1955 farm at the time of subdivision or combination or is inconsistent with written evidence of sugarcane acreage records supplied by the parties affected, such base shall be adjusted by the County Committee taking into consideration the foregoing factors.

The base for such tract or subdivision thereof determined as heretofore provided shall, for the purposes of determining a farm base under subparagraph (1) of this paragraph, be considered as the 1955-crop proportionate share for such tract or subdivision thereof, if it becomes a separate farm, or as a part of the 1955-crop proportionate share of the farm of which the tract or subdivision thereof becomes a part.

Where two or more farms, for each of which a 1955 proportionate share was established, are combined as one farm for the 1956 crop, the sum of the 1955 proportionate shares established for each of the farms combined shall, for the purposes of determining a farm base under subparagraph (1) of this paragraph, be considered as the 1955-crop proportionate share for such combined farm.

A farm proportionate share shall be established as provided in this section for each farm involved in a division or combination under this paragraph.

(5) *Appeals.* A producer of sugarcane who believes that the proportionate share established for his farm pursuant to this determination is inequitable may file an appeal in writing at the local county Agricultural Stabilization and Conservation office (hereinafter referred to as county office) not later than July 1, 1956. The county committee shall make such adjustments as are necessary due to the use of any incorrect data in determining the proportionate share. In other cases, the county committee shall, after review of all the facts, forward the case, together with its recommendation, to the State Committee. The State Committee shall consider the appeal and the county committee's recommendation in light of the interest of the appellant as related to the interests of all other producers of sugarcane in the State and shall return the case to the county committee, indicating the appropriate disposition.

Upon receipt thereof, the county committee shall notify the producer in writing as soon as possible regarding the decision on his appeal. If the producer is dissatisfied with the decision, he may appeal in writing before September 1, 1956, to the Director of the Sugar Division, Commodity Stabilization Service, U.

(Continued on page 31)

LOSSES FROM DELAY IN DELIVERING HARVESTED CANE[1]

By W. F. Guilbeau, E. E. Coll, and L. F. Martin, Southern Regional Research Laboratory [2] New Orleans, La.

More than $5 per acre can be lost for every day that cane remains in the field longer than absolutely necessary for burning and delivery to the factory. Practical experiments under actual field conditions at St. Gabriel Plantation show that an average stand of 25 tons per acre would have brought more than $40 more per acre if it could have been delivered within 24 hours, than it was worth after lying in heap rows for 9 days after cutting. Prompt delivery of cane will prevent both loss in weight and deterioration in quality that are reducing profits of the growers. Anything that can be done to insure grinding of cane within the minimum time after it is cut will pay in bringing more return to the grower.

AVERAGE RESULTS OF DELAY IN GRINDING, AND PRICE DETERMINATION

Age of Cane	Wt. of Cane	Sucrose, % Cane	Normal Juice, Brix	Normal Juice, Sucrose	Normal Juice, Purity
Days	lbs.	Average for 6 Experiments			
1	2000	9.59	15.30	11.18	72.9
9	1835	9.81	15.72	10.37	65.5
14	1816	9.08	16.09	9.95	61.6

PRICE DETERMINATION

Assuming: Average Yield of 25 Tons/Acre
Sugar Price 6.000¢/lb.
Molasses Price 10.000¢/gal.

	1 Day Old	9 Days Old
Sucrose Factor	0.918	0.774
Purity Factor	0.9864	0.908
Conversion Factor	0.9055	0.7028
Tons per Acre, Net	25	$\frac{1835}{2000}$ x 25 = 22.94
Standard Tons per Acre (Actual Tons x Conversion Factor)	22.64	16.12
Price of Standard Ton	$6.36	$6.36
Cane Payment	$143.99	$102.52
Molasses	3.22	2.31
Total	$147.21	$104.83
Loss per Acre	42.38	

The importance of delivering cane to the mill as soon as possible after cutting and burning is so vital to the profitable operation of the industry that we must emphasize the value of prompt delivery at every opportunity. Growers are paid only for the recoverable sugar in the actual tonnage of cane that reaches the mill. Maximum profits can be made only by delivering cane with as much as possible of the sugar that has been produced at the time of harvesting. We know that no more sugar is formed in the cane after it is cut and sugar can only be lost during every day that the cane remains in heap rows after cutting and burning. This results from a combination of loss of weight of the cane, and of sugar by inversion that reduces the purity and decreases the recoverable sugar value.

Experiments with small samples of cane kept under controlled conditions of temperature and humidity [3] proved that the weight decreases and purity drops under any conditions that can be expected in the field when cane is lying in heap rows. These laboratory experiments showed that the losses can be extremely large under the worst conditions and are substantial even under the best conditions that can be expected. Practical proof of the dollar value to the grower of the promptest practical delivery of cane was obtained in large scale experiments under actual field conditions during the 1954 grinding season. The results were what we expected on the basis of the laboratory experiments, and demonstrated in a thoroughly practical manner the amount of extra profit that can be made from every day that the delivery time is shortened. Two-ton samples of cane were used for each test and ground under commercial conditions at the Audubon Factory, where the juices were also clarified in our pilot plant. Average results of six experiments made at different times throughout the season with both stubble and plant cane give a fairly accurate estimate of the loss in dollars that can result from leaving cane in heap rows longer than absolutely necessary to complete burning and loading operations.

Three of the experiments used stubble cane during the first half

of the season and three used plant cane during the latter half, as in regular harvesting schedules. A total of 8 to 10 tons of cane was harvested at the beginning of each experiment. Samples consisted of 2-ton bundles loaded and delivered to the Audubon Factory for grinding at intervals of 1, 3, 9, and 14 days after harvesting. The hand cut and stripped cane for each experiment was laid in a heap row exactly as in regular harvesting practice. A 150-lb. sub-sample of the entire lot was weighed and laid separately in the heap row at the beginning of the experiment; this same sub-sample was reweighed at the time that each 2-ton sample was loaded and delivered for grinding. This established the decrease in weight of the entire lot of cane during the two weeks of the experiment.

Growers will be interested primarily in the loss of sugar that occurs in the field prior to delivery and sampling of the cane, as the mills will pay them only for recoverable sugar determined by the factors for sugar content and purity of normal juice. Additional losses caused by less efficient processing, and by recoveries of sugar lower than those predicted by the recoverable sugar formula will be of most interest to the factories. The experiments were conducted in such a manner that an estimate of each of these losses was obtained. As might have been expected, the field loss borne by the grower was substantially greater than the processing loss borne by the factories.

Recoverable sugar and the value of the cane to the grower can be calculated from data given in the table, obtained by grinding the 2-ton samples in the Audubon Mill tandem under commercial milling conditions. Weights of recoverable 96° sugar are those that would be obtained from the reduced weight of cane actually delivered. This is the amount of sugar that must be compared with the recovery that might have been obtained from the original ton of fresh cane. It is not possible to deliver cane within 24 hours if it must be burned, but the result for the sample ground the next day after cutting gives a starting point for the experiment; the recoverable sugar is as near as it was possible to get to the amount that was produced in the standing cane at the time it was cut. A practical and economical combination harvester-cleaner-loader will make it possible to get that amount of sugar to the mill and would be the most effective way of increasing sugar recoveries and profits to the growers substantially. Even the minimum practical time of only 3 days necessary for burning resulted in loss of value of the cane. Every effort must be made to get the cane delivered in this minimum practical time by present methods. Amounts of recoverable sugar in the last column of the table are much less, on the average, after 9 days, and the cane held in the field for 14 days has no more than salvage value. It had deteriorated after that time to such an extent that none of the samples could be converted to standard cane as the cane payment factors for calculating the conversion do not apply to cane of such poor quality.

In the worst case, 37% of the sugar that might have been recovered by grinding within 24 hours was lost after 8 days exposure in the heap row. After two weeks in this particular experiment almost half of the original sugar had been lost as far as payment by the factory is concerned, and it is doubtful that a factory could recover the remaining half of the sugar from juice of such low quality. The *average* loss was more than 10% of the recoverable sugar as a result of 8 days delay in delivering the cane, and almost one-fourth of the sugar was lost after two weeks. The growers' profit on cane will disappear if the average delivery time cannot be kept as short as possible —not longer than 72-84 hours.

(Continued on next page)

Junius J. Champeaux, cane farmer, (center) gets some pointers from Dick Breaux and Preston Dunckelman of L. S. U. at the New Iberia Festival and Fair.

At the bottom of the table we have calculated the cost in dollars and cents of leaving cane in the heap rows for 8 days. This is the average loss calculated for the average deterioration in quality in the six experiments. The average yield would be 25 tons per acre if the cane is loaded and delivered within 24 hours, and payment would be made for 22.264 tons of standard cane calculated from the established price determination factors. Eight days later there would be not quite 23 tons per acre of net cane delivered because of the loss in weight from exposure in the heap row. Calculation with the factors for the poorer quality of this smaller tonnage of cane reduces the amount of standard cane paid for to only a little more than 16 tons per acre. This is a loss of 6½ tons of standard cane per acre. In dollars and cents at the sugar and molasses prices received during the season it represents a loss of more than $42 per acre.

Deterioration is greater after the first three or four days, but the average loss in these tests is $5.30 per acre per day for every extra day that the cane remained in the field. Even if four days are required for burning and loading the cane, getting the job done within this time would save 5 days and bring an extra return of $26.50 per acre for the cane. The opportunity to make this extra profit justifies every effort to get cane to the mills in the shortest possible time in which the job can be done.

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[1] Condensed from a detailed report published in The Sugar Journal **18**, No. 2, pp. 28, 30-31 (July 1955).

[2] One of the laboratories of the Southern Utilization Research Branch, Agricultural Research Service, U. S. Department of Agriculture.

[3] Lauritzen, J. I., Balch, R. T., and Fort, C. A. Inversion of Sucrose and Other Physiological Changes in Harvested Sugarcane in Louisiana. U. S. Dept. Agr. Tech. Bull. 939 (1948).

UP FRONT (Continued from page 19)

Proportionate Shares

The acreage allotment ruling really is rough. It, of course, applies to the crop of 1956.

Generally speaking all farms with over 25 acres in cane have been cut about 13% under 1955 proportionate shares. The Department says the acreage cut is necessary to bring the cane production in line with the 500,000 ton sugar quota for Louisiana and Florida. Most of us were hoping that there would be no acreage cut in view of the good prospects for an increase in the sugar quota but the Sugar Branch chose to ignore this possibility.

———o———

SHARES (Continued from page 27)

S. Department of Agriculture, Washington 25, D. C., whose decision shall be final.

(6) *Delegation.* Farm bases and farm proportionate shares shall be established by the county committee in accordance with this determination.

(b) *Share tenant and sharecropper protection and compliance with other conditions for payment.* In addition to compliance with the proportionate share for the farm in accordance with this determination, eligibility for payment of any producer of sugarcane shall be subject to the following conditions:

(1) That the number of share tenants or sharecroppers engaged in the production of sugarcane of the 1956 crop on the farm shall not be reduced below the number so engaged with respect to the previous crop, unless such reduction is approved by the State Committee. In considering such approval the State Committee shall be guided by whether the reduction was the result of a voluntary action of the share tenant or sharecropper, or whether the reduction was beyond the control of the producer;

(2) That such producer shall not have entered into any leasing or cropping agreement for the purpose of diverting to himself or any other producer any payments to which tenants or sharecroppers would be entitled if their leasing or cropping agreements for the previous crop were in effect; and

(3) That such producer has met the requirements of the act with respect to child labor, wage rates and, in the case of a processor-producer, prices paid for sugarcane.

———o———

WAGES (Continued from page 25)

appealed to the Director of the Sugar Division, his decision shall be binding on all parties insofar as payments under the act are concerned.

———o———

FAIR PRICE (Continued from page 23)

such allowances for the 1955 crop: *Provided,* That nothing in this subparagraph shall be construed as requiring the processor to make allowances to producers in excess of the actual costs or rates charged by a commercial carrier for the customary method of transportation. *Provided further,* That where the only available practicable means of transportation is by railroad and the distance to the nearest mill is in excess of 50 miles or where, because of unusual circumstances, the cost of transporting sugarcane is in excess of customary allowances, such costs may be shared by the processor and the producer by agreement, subject to the approval of the State Officer.

(6) If a processor and the producers delivering sugarcane to such processor mutually agree upon a plan for improving harvesting and delivery operations, there may be deducted from the price per ton of sugarcane an amount equal to one-half of the cost of such plan. Such deduction may not be made until the plan has been approved by the State Officer.

(7) The processor shall not reduce the returns to the producer below those determined herein through any subterfuge or device whatsoever.

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INDEX FOR VOLUMES 32 AND 33

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cial Bulletin of the American Sugar Cane League of the U. S. A.

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In This Issue

Up Front With The League 35
The 100,000 Ton Purchase—Committee Assignments

In The Field With Lloyd L. Lauden 36
Fresh Cane Studies Continues

Index Volumes 32 and 33 37

Standing Committees of the American Sugar Cane League 45

Statement Of Ownership 48

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We stand for the encouragement of Home Industries as against Foreign Competition

UP FRONT WITH THE LEAGUE

The 100,000 Ton Purchase

On October 31st, the U.S.D.A. announced that the Government finally had decided to purchase the 100,000 tons of over-quota sugar that they promised to buy when the Sugar Bill was being discussed last spring. This is the first good news that we have had out of Washington in many a moon. It was received just before the hobgoblins and the ghosts began to prowl on Halloween, which, of course, was just a coincidence.

No details regarding the purchase have been received as we go to press. The official news release from Washington is all that we know and this reads as follows:

"100,000 tons of sugar will be purchased by the Commodity Credit Corporation in the continental sugar producing areas according to an announcement made today by the U. S. Department of Agriculture. It is the intention to make the purchases before the end of 1955."

"The action is being taken to relieve the domestic sugar surplus which is especially burdensome in the mainland cane states of Louisiana and Florida and in some of the domestic beet areas. The action is in keeping with the objective of a provision of HR 7030 which was passed by the House of Representatives during the First Session of the 84th Congress and of Senate Resolution 147 which was approved by the Senate during the same session."

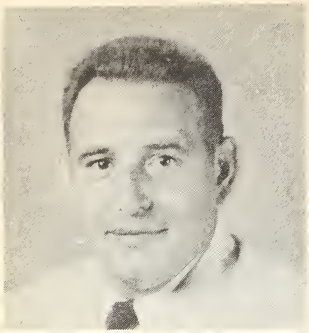
"Purchases will be made under offers to be announced at a later date. The sugar will be utilized to meet requirements under the Foreign Mutual Security Program of the U. S. Government."

Committee Assignments

As you will see, this issue of *The Sugar Bulletin* is confined almost exclusively to the index for volumes 32 and 33 and a list of the standing committees of the League. We apologize for using so much space for these two listings but they had to be printed and we reasoned that it was better to use the necessary space in just one issue.

The members of the Committees were appointed by our new President, Mr. F. A. Graugnard, Jr., who obtained suggestions from the members of the Executive Committee. Mr. Graugnard has asked us to state, however, that the membership of the committees is not limited.

If you feel that you could do a good job on any of the committees, or if you know of someone else who would do a good job on any of the committees, drop a line to the League office and we will immediately advise Mr. Graugnard of your thoughts. Anyone who is willing to work for the advancement of the Louisiana sugar industry will, we are sure, be a welcomed addition to any of the standing committees of the American Sugar Cane League.



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Fresh Cane Studies Continues

Again this year the Southern Regional Laboratory, the Audubon Sugar Factory and the American Sugar Cane League are conducting studies to determine how much a farmer profits by delivering fresh cane to the mill. The three parties are fortunate to have the excellent cooperation of the St. Gabriel Penal Farm where the cane for this experiment is grown. The three parties are also very fortunate to have the excellent cooperation of Capt. E. L. Chambers and Mr. Charles Breaux, Jr. of St. Gabriel.

The experiment will be conducted in the same manner as it was last year with the exception that the cane will be left in the field for only 1, 3, 9 and 12 days after being cut to determine loss of sucrose, purity, and weight instead of 1, 3, 9 and 14 days, and an attempt will be made to determine what effect burning has on losses after the cane is left in the field for 1, 3, 9 and 12 days.

The purpose of this article is to re-emphasize the importance of delivering fresh cane to the mill. The experiment conducted last year proved that *stale* cane has *3 "cannots"*.

1. Stale cane *cannot* gain in total sugar content.
2. Stale cane *cannot* gain in purity.
3. Stale cane *cannot* gain weight.

The experiment last year proved beyond a doubt that farmers would make more money by delivering fresh cane.

If doubt remains, try to think of any plant that bears fruit after the plant has been cut from the grown.

Sugar cane begins to "go bad" the minute it is cut. There is not much loss the first day, but from then on each day digs deeply into the farmer's pocket.

It is interesting to test the drop in weight of 50 or 100 stalks of cane after they have been cut 9 or 10 days. This is easy to do if a scale of 150 or 300 lb. capacity is handy.

The experiment last year proved that $42 per acre would be gained by delivering 24 hour old cane to the mill as compared with the delivery of 9 day old cane.

If a farmer thinks that the loss in weight is not much; then 10% is not a large percentage. The average of all varieties in the test last year showed about 10% loss in weight 9 days after being cut. To deduct 10% from a cane check is a sizeable bit of the profit.

Laboratory experiments conducted by J. I. Lauritzen, R. T. Balch, and C. A. Fort, performed earlier under carefully controlled conditions, showed large losses when cane remained in the field too long after being cut, particularly under adverse conditions. The work done later points out in dollars and cents what gains can be received.

Progress has been made; many farmers are delivering fresh cane to the mill. A check of these farmers will indicate that fresh cane to the mill is profitable.

INDEX---VOLUMES 32 AND 33---ISSUES
October 1, 1953 Through September 15, 1955

VOLUME No. 32

Up Front With The League — **Page**

The Annual Meeting—Truck License Plates—Freight Rates 4
Sugar For Iran—It All Depends—For The Birds—Appoint Agents—Sugar Boiler Needed—Bench Chemist—Crop Prospects 19
The Strike—The Fight—The Union Oath—Federal Court Decision—Crop Progress Report—Definition of Marketing Funds—Honorary Life Members—Freight Rates—Blackstrap Molasses 37
The Sugar Act—The Strike—National Prominence—Roland L. Toups—Molasses Bulletin—Analysis Meeting Scheduled—The Price Skid 51
Lost, One Stabilizer—The Strike—Mill Marketing Quotas—Hot Air Treatment—Merry Christmas—1954 Consumption 84
Happy New Year—Praise For Mr. Lauden—C. J. Bourg Dies 100
Clarence J. Bourg—McConnell Promoted—Crop Report—Quota Hearing Held 116
Technologists To Meet—A Resolution—Robert J. Gauthier—Horace Nelson Retires—Promotions 132
Chas. A. Farwell—Louisiana's First 2, 4-D Plant—Contact Committee Meeting March 9th and 10th—Mule Treatment 147
Governor Kennon Urges Quota Increase 164
Season's Average Prices—Bills Introduced—E. C. Simon Heads Technologists—Willis Addresses Meeting—Western Group Elects 180
Bills and Committee Members—Ryania—Quotas Increased 195
Right To Work—Endorses Increased Quota—Industrial Committee Meets—Flood Control—Four Hundred Million Parasites 211
The Right To Work—The Bills—Quota Legislation—Bulletin No. 42 227
Sugar Legislation—Sugar Prices—Senate Ratifies ISA Agreement—J. Alfred Levert Dies 243
Quota Legislation—Contact Committee Meeting June 23rd—Hearings Scheduled—The Right To Work 259
Sugar Legislation—Acreage Hearing July 8th—River Control—Honor Dr. George P. Meade 276
Quota Legislation—Acreage Hearing July 8th—Bulletin No. 46 291
The Right To Work—Acreage Hearing Held—Wage Price Hearing Postponed 307
Political Power—St. James Field Day—C. B. Gouaux Retires 323
Mule Breakers—The Wage-Price Hearing—Acreage Allotments—Mill Allotments—Cost Expert 383
The Other Foot—Festival Time—Sugar Price—Once Again?—Le Bourgeois to Colonial 399

VOLUME No. 33

Wage Determination—Annual Meeting—Resolutions—Mr. W. G. Taggart— Mr. C. B. Gouaux—Loupe Joins Extension Service—Dunkleman Reports 3
King Sucrose and Queen Sugar—Price Talks—Willis Wires—The Old Mule 19
Omega—The Franklin Banner-Tribune—Sugar Prices—Blackstrap Promotion—Parish Rankings—Emory Coll 31
"Eating Crow"—Price Outlook—A Suggestion—Dr. Thomas J. Stafford 47
"Dear Sugar Division"—The Weather—Roland Toups 59
Season's Greetings—Sugar Cane Paper—Quota Increase—Public Enemy, They Say Flo-Mix 75
8,200,000 Tons—Double Talk—Honor Mr. Myers—Hawaiians Elect 88
1954 Distribution—Quota Resolution—Hugh Junca, Sr., Dies—Antipicketing Upheld 104
The Market—Sugar Legislation—Free Trade—Freight Rates—Old River 120
Morale — The Sugar Act — The Crop — Marketing Hearing February 25th — ASSCT Annual Meeting Scheduled—Averages 136
Sagging—Season's Average Prices—Marketing Allotments—New Members—Contact Committee Meeting—Farm Machinery 152
Jackass—Worry Warts—Free Trade—Rebuttal—Savois Heads AS of SCT—2, 4-D Hearing Scheduled 168
A Little Pep—A Good Question—Southdown Elects Vaccaro—Chadwick to Southdown—Mr. Voorhies III—Cane Breeding Report—Help Wanted—H. Langdon Laws Dies—Exchange Meets 184

Page
Distressed—Sugar Legislation—Dr. Lincoln to Houma—A Resolution—Henry W. Jarreau Dies 200
Sugar Prices—Detergents from Sugar—Nylon from Bagasse—Henry W. Jarreau Dies—Mr. Holland Dies 211
The Markets—Sugar Legislation—Do It Yourself Heating Unit Plan—To Honor Dr. Haas—Mr. Voorhies Improves—610,749 Tons Some Good Yields 223
Sugar Prices—At Last A Hearing—Acreage And Wage-Price Hearings Set—Wilbert Elected—To Encourage High Yields—Dalapon approved 239
Sugar Legislation—Concurrent Resolutions 255
Sugar Legislation—For The Record—Dollars In Cuba—Clarence J. Savoie Dies—Acreage Hearing July 13th 267
Boggs and Willis Do It Again—Cubans Shed Tears 283
Sugar Legislation—For The Record—Quotas Increased—E. J. Claire Dies—The Wage, Price Hearing 299
Correction—Mill Marketing Allotments—Honor Dr. Tysdal—The 100,000 Tons—Fair Price Hearing September 7th 363
The Fair Price Hearing—The Market—Annual Meeting September 29th—Festival September 23, 24 and 25 375

VOLUME No. 32

In The Field With Lloyd L. Lauden

The Ratoon Stunting Disease Problem 5
Cane Breeding Work 20
The League Is Now Treating Seed Cane Experimentally With Hot Air To Control the Stunting Disease 37
Milling and Processing Studies 52
Cutting Unit Costs 85
The Harvester, Cleaner, Loader 109
Row Spacings 118
Crop Conditions 134
Corn For The Sugar Belt 148
Hot Air Treatment Of Sugarcane In An Effort To Control Stunting Disease..... 172
Fertilizer Recommendations For 1954—U.S.D.A. Fertilizer Recommendations For Sugar Cane For 1954—Louisiana Agricultural Experiment Station Fertilizer Recommendations For 1954 182
"Mr. Better Sugar Farmer" 196
Research On The Mechanical Harvester, Mechanical Planter and Mechanical Cane Top Shredder 212
Research By The League On Stunting Disease 228
The Value of Uniformed Recommendations 244
The League Discusses Research With Dr. Tysdal 260
Contact Committee Meeting Wednesday, June 23rd. 277
N. Co. 310 292
Seed Treatment For Stunting Disease in 1954 308
The 1954 Cane Crop 324
Fall Planting 384
The Distribution of N. Co. 310 400
Variety Talk (Unreleased) 4
The Birth Of A Sugar Cane Variety 32
The Crop 48
Research 60

VOLUME No. 33

Why Not Be Optimistic? 76
Check With Your Neighbors 89
Views and Opinions 105
Canal Point Cane Breeding Station 122
Stunting Disease 138
Contact Committee Meeting at L. S. U. March 9 and 10 154
Seed Increase From Cane Treated To Control Stunting Disease 170
The Freeze—Cane Breeding 186
Conditions in the Field—Experiments 202
Does the Louisiana Sugar Industry Need an Early Maturing Cane Like C. P. 48-103? 212
A Report on N. Co. 310 224
Contact Committee Meeting June 16 240

Page
New Research—Cane Beetles—Heating Units 256
New Varieties and Heat Treated Seed 268
Release of Heat-Treated Seed 284
Field Days 300
The Distribution of C. P. 47-193, 48-103 and Heat-Treated Seed 364
Apply Chlordane to Seed Pieces On Heavy Soils to Increase Yields 376

VOLUME No. 32

In Washington With Joe Ferris

Hind Sight—Hearings 6
New Labor Secretary—Conference Postponed—Puerto Rican Meetings—Sweet Facts 21
USDA Re-Organization—Marketing Hearing Postponed 38
Statement on behalf of Growers and Processors of Sugarcane in the Mainland Cane Area with respect to 1954 Sugar Consumption Requirements to be presented at the Public Hearing, November 16, 1953, U. S. Department of Agriculture, Washington, D. C. 53
Hearings, Cane and Beet—Ears Burn?—Clarence Bourg III—Novel Report—Merry Xmas. 86
Looking Backward—And Forward!—Final 1954 Quota Change 110
Sugar Ads—A Rocky Road—Cuba To Entertain Congressmen 119
Producers To Meet—Beet Allotment Hearing—Sugar Ball 135
1954 Marketing Allotments Soon—More Cotton, Fewer Beets?—"Foreign Trade" Missions 149
Wadleigh Resigns—Benson Fights Back 183
International Sugar Agreement 197
Florida Wage and Price Hearings—Climbing On The Bandwagon—Ellender Leads Senate Fight 229
Monkey Business—Annual Meetings 245
Stronger State Labor Laws—War Plans 261
The More the Merrier—No Rate Reduction—Beet Hearing Reopened 278
A Battle Royal—Speaking of Battles—Agricultural Trade Missions Report 293
You Can And You Can't, Or What To Do With Your Excess Quota Sugarcane 309
Tribute to Ellender—Final Marketing Allotments—Cuban Direct Consumption Sugar 325
Victory or Defeat?—1955 Marketing Allotment Hearing—No Hike In Florida Wage Rates—Myers To Hold Sugar Conference 385
A New Word—Two Sugar Prices—International Sugar Council Meets—Stipulations Signed 401
Liquid Sugar Conference—Puerto Rican Quota Allotment Hearing—Lucky Hawaii 5

VOLUME No. 33

Page
Consumption Estimate Hearing—No Luck—Task Force Meets October 13-14.... 21
No Runs, No Hits, No Errors—1955 Quota Hearing—Philippine Trade Modification Opposed 33
Free For All—Farmers' Votes 49
Honor, Where Honor Is Due—History Repeats Itself—Short, Short Hearing..... 61
What Price Cuban Friendship? 77
U. S. Philippine Trade Pact—Marketing Allotment Hearing 90
Sugar In The National Spotlight 106
Cuban Propaganda Backfired 121
Discuss Sugar Legislation 137
More Wall Street Cuban Propaganda 153
Thanks!—Reports on Sugar Bills—Labor Supports Sugar Legislation 213
Behind the 8 Ball—Proposed Hearing—It's Easy, If You Know How 225
History May Repeat Itself—Marketing Allotments 241
A Three Ring Circus—Allan Jackson And The News 257
At Last, Hearings On Sugar Legislation—Boggs And Willis Praised—Corridor Opinion 269
Boggs and Willis Do It Again—Cubans Shed Tears 283
Efforts In The Senate To Pass Sugar Bill 317
Status of the 100,000 Ton Sugar Purchase 365
The $64.00 Question 377

VOLUME No. 32

Miscellaneous

	Page
Claude Bernard Gouaux Retires	390
Current Economic Problems Of The Sugar Industry	265
Deep Tillage	122
Dr. Efferson To Head State Experiment Station	121
Excerpts From The Testimony Of W. S. Chadwick At The Marketing Allotment Held In New Orleans On January 6, 1954	133
Grower's Income Per Ton of Cane 1937-1953 (Table)	375
Hearing On 1955 Mainland Sugarcane Acreage Allotments July 8th	279
Hurrycane Harvester, 1953 Model	282
Index For Volumes 30 and 31—Issues October 1, 1951 Through September 15, 1953	101
Report of President Borne	7
Sugar Situation	200
Tariff On Philippine Sugar	75
Why Piece Work	280

VOLUME No. 33

Miscellaneous

A New Sugarcane "Blood Bank"	366
Address Of President J. P. Duhe To The Annual Meeting Of The American Sugar Cane League Held In New Orleans September 30, 1954	6
Denis J. De Arensbourg	55
Bagasse Paper	230
Cane Sugar Industry Makes Efforts To Solve Its Own Problems	34
Crop News By Parishes	62
Current Status of Sugarcane-insect Investigations In The United States	155
Excerpts From "The Sugar Situation"	156
Excerpts From "The Sugar Situation"	169
Fair and Reasonable Prices For The 1955 Crop of Hawiian Sugarcane	215
Flood Control	383
Charles Godchaux (A Resolution)	36
Grower-Processor Committee Asks Postponement	301
Irrigation Costs, Forty-two Louisiana Farms, 1953	227
Mainland Cane Brief On 1955 Consumption Requirements	50
Memo To Every Cane Grower	211
Natural Gas	214
Mr. Mok Expresses His Appreciation	304
Renegade Money (An Editorial)	185
Report On Molasses Supplies For 1954	126
Some Good Yields	216
Statement of Ownership	43
Sucrochemical Outlook	78
Sugarcane Planter Development In Louisiana	187
Talk By J. P. Duhe, President of the American Sugar Cane League, At The Southern Farm Forum	125
Dr. Todd Joins Canal Point Staff	157
Weather Outlook For December	63
Weather Outlook For December 15—January 15	79
Weather Outlook For January	91
Weather Outlook For January	114
Louis J. Wilbert (A Resolution)	37

VOLUME No. 32

Cane Borer

A Statement Concerning The Availability of Trichogramma Parasites In 1954	216
Recommendations For The Control Of The Sugarcane Borer In Louisiana In 1954	185
Successful Establishment Of Sugarcane Borer Parasites In Louisiana In 1953	120

VOLUME No. 33

Recommendations For The Chemical Control Of The Sugarcane Borer In Louisiana For 1955	259
Sugarcane Borer Overwintering Population Survey and Outlook For 1955	258

VOLUME No. 32

Cane Varieties — Page

Applications For Purchase of N. Co. 310 297
Evaluation of Sugarcane Variety N. Co. 310 For Milling and Processing 295
Louisiana Sugarcane Variety Census For 1954 388
Notice of Release of N. Co. 310 296
Release of New Sugarcane Variety N. Co. 310 294
Results of Sugarcane Variety Tests In Louisiana During 1953 344
Size of Seed Piece In Relation To Rapid Increase of a Variety 298
Sugarcane Seedling Work at the Houma Station 1953-1954 367
Sugarcane Test Fields Season Of 1953 352

VOLUME No. 33

Application For Purchase of C. P. 47-193 291
Application For Purchase of C. P. 48-103 289
Application For Purchase of Heat-Treated Seed Cane 293
Evaluation of Sugarcane Varieties C. P. 48-103 and C. P. 47-193 For Milling and Processing 286
Louisiana Sugarcane Variety Census For 1955 Hebert 333
Outfield Sugar Cane Variety Trials-Gouaux and Stafford 345
Release of New Cane Varieties C. P. 48-103 and C. P. 47-193 285
Results of Sugarcane Variety Tests In Louisiana During 1954—Hebert and Matherne 321
Seedling Work At The Houma Station During 1954-1955 Abbott, Hebert, Schexnayder, and Tippett 319

VOLUME No. 33

Contact Committee

Contact Committee Meeting March 9th and 10th 171

VOLUME No. 33

Recommendations To The Contact Committee 272

VOLUME No. 32

Determinations

1953 Commercially Recoverable Sugar Determination 27
Fair Price Determination For The 1954-55 Season 402
Farm Allotments Announced For 1955 Mainland Sugarcane Crop 386
Full 1954 Allotments For Mainland Cane Sugar Area 387
Minimum 1953-54 Harvesting Wages and 1954 Cultivation Wages 8
Explanation of 1953
Fair And Reasonable Wage Rates 23

VOLUME No. 33

1954 Commercially Recoverable Sugar Determination 38
1954 Harvesting and 1955 Cultivation Wage Rates 22

VOLUME No. 32

Fertilizer

Fertilizer Investigations On Sugarcane in 1953 360

VOLUME No. 33

Sugarcane Response To Fertilizer Treatments In 1954, Davidson 335
Summary of Ten Years Work With Complete Fertilizers On Sugar Cane 107
U.S.D.A. Fertilizer Recommendations for 1955 141
L.S.U. Fertilizer Recommendations for 1955 140

VOLUME No. 32

Florida

Final Manufacturing Report of Florida Sugarcane Factories, Crop 1953-1954 (Table) 370

VOLUME No. 33

Page

1954-55 Florida Crop 344

VOLUME No. 32

Labor

A Statement By President Duhe On The Labor Situation 22
A Story In Pictures 406
Comparison of Workers' Houses 72
Text Of The Right-To-Work Bill, Effective July 28, 1954 311
The Sugar Cane Strike A Statement To The Public 39
The Right to Work (An Editorial) 284

VOLUME No. 33

A Story In Pictures 10

VOLUME No. 32

Life Membership

Page

Mr. Pipes Presents Life Membership to Dr. Abbott 246
Mr. Voorhies Presents Life Membership to Dr. Chilton 247

VOLUME No. 32

Markets

Sugar Market Statistics Through September 25, 1953 11
Sugar Market Statistics Through October 26, 1953 43
Sugar Market Statistics Through November 25, 1953 71
Sugar Market Statistics Through December 24, 1953 111
Sugar Market Statistics Through April 23, 1954 233
Sugar Market Statistics Through May 28, 1954 263
Sugar Market Statistics Through June 25, 1954 302
Sugar Market Statistics Through July 26, 1954 328
Sugar Market Statistics Through August 25, 1954 392

VOLUME No. 33

Sugar Market Statistics Through September 27, 1954 9
Sugar Market Statistics Through October 25, 1954 39
Sugar Market Statistics Through November 25, 1954 67
Sugar Market Statistics Through December 27, 1954 95
Sugar Market Statistics Through January 25, 1955 129
Sugar Market Statistics Through February 25, 1955 161
Sugar Market Statistics Through March 25, 1955 193
Sugar Market Statistics Through April 25, 1955 216
Sugar Market Statistics Through May 25, 1955 248
Sugar Market Statistics Through June 24, 1955 275
Sugar Market Statistics Through July 25, 1955 306
Sugar Market Statistics Through August 25, 1955 367

VOLUME No. 32

Prices

Official Average Prices For The 1953-54 Pricing Period 186
President Duhe Writes Secretary Benson 55
The Mechanics Of Pricing Louisiana Sugars 262
Weekly Average Prices 46
Weekly Average Prices 77
Weekly Average Prices 124
Weekly Average Prices 141
Weekly Average Prices 154

VOLUME No. 33

Official Prices For 1954-55 Pricing Period 171
Weekly Average Prices 53
Weekly Average Prices 70
Weekly Average Prices 84

Page
Weekly Average Prices 114
Weekly Average Prices 128
Weekly Average Prices 161

VOLUME No. 32

Production

Cropland Acres in Louisiana 1950-1953 341
Milling Results in Louisiana 1944-1953 342
Production Of Sugar, Syrup and Molasses in Louisiana, 1953-54 Crop (Preliminary) 153
Production of Sugar, Syrup and Molasses in Louisiana, 1944-1953 342
Total Acres Planted in Louisiana 1950-53 341
Total Planted Acres in Louisiana 1950-54 315
Yield of Cane Per Acre in Louisiana, 1950-53 341

VOLUME No. 33

Cropland Acres in Louisiana 1951-1954 315
Milling Results in Louisiana 1945-1954 316
Production of Sugar, Syrup and Molasses in Louisiana 1945-1954 316
Production of Sugar, Syrup and Molasses in Louisiana 1954-55 (Preliminary) 192
Yield of Cane Per Acre in Louisiana 1951-54 315
Yield of Recoverable Sugar Per Acre in Louisiana 1951-54 315

VOLUME No. 32

Proportionate Shares

Proportionate Shares Acres in Louisiana 1950-53 341
Proportionate Shares Acres Harvested For Sugar In Louisiana 1950-53 341

VOLUME No. 32

Proportionate Shares Acres in Louisiana 1951-54 315
Proportionate Shares Acres Harvested For Sugar In Louisiana 1951-54 315
Statement On Proportionate Acreage Shares 303

VOLUME No. 32

Quotas

Deficit of 80,000 Tons In Quota For Domestic Sugar Beet Area, Prorated 54
Proposed Allotments Of The 1954 Sugar Quota For The Domestic Beet Sugar Area 213
Public Hearing On Sugar Requirements For 1954 Announced 44
Statement of the American Sugar Cane League Regarding Increase In The Mainland Cane Area Sugar Quota 181
Sugar Quotas Increased 42
Sugar Requirements For 1954 Established 108
Testimony Of George H. Salley of Miami, Florida At The Marketing Allotment Held in New Orleans On January 6, 1954 151
Testimony of Government Witness At Public Hearing On Revision Of Allotment Of 1953 Sugar Quotas For Mainland Cane Area 74
USDA Revises 1954 Marketing Allotments For Mainland Cane Sugar Area 184
U. S. Beet Association Brief At Sugar Consumption Hearing 70
U. S. 1954 Sugar Quotas Increased From 8,000,000 to 8,200,000 Tons, Raw Value 198

VOLUME No. 33

Preliminary Mill Marketing Quotas For 1955 94
Proposal To Increase Sugar Quotas to 8,250,000 Tons, Not To Be Effective 65
Public Hearing On Sugar Requirements For 1955 To Be Held November 9th 36
1954 Sugar Quota Deficit Prorated 96
Sugar Quotas Increased 302
U. S. Sugar Quotas Increased From 8,200,000 Tons To 8,250,000 Tons, Raw Value 64

VOLUME No. 32

Research

A Report On The Production of True Seed of Sugarcane and the Employment of New Breeding Techniques At Canal Point, Florida, For the Season 1953 364

Page
Chemical Weed Control In Sugarcane 150
Dry Sugar Baits Show Promise For Controlling Flies In Livestock Buildings 140
Experiments On The Flowering of Sugarcane 165
Hawaiian Sugar Industry's Research Program Continues On By-Product Possibilities For Paper, Fertilizer and Chemicals 152
Increase Yields On Heavy Soils By Using Chlordane 374
Polyelectrolyte For Sugar Juice Clarification 232
Recent Developments In The Culture of Sugar Cane In Louisiana 326
Shift of Scientists In Sugar Crops, Soil and Rubber Research 327
Sugar Technology In Louisiana 310
Sugar Yields, Sugar Recoveries, and the Future of Our Louisiana Industry 371
Synthetic Sugar 91
The Effect of Dry Storage Before Planting On The Germination of Sugar Cane Cuttings 87
USDA Research Shows Soil Treatment With Chlordane Boosts Sugar Cane Yields 140
Viscon Fabric As A Filter Media 201
What Is New In Sugar Research 248

VOLUME No. 33

Edgerton's "Sugarcane and Its Disease" (A Review) 378
Fertility Status of Soils of The Sugarcane Area As Indicated By Soil Testing.... 379
Field-Made Soil Conditioners—Humus 173
Irrigation 37
Irrigation 51
Irrigation (continued from November 15th Issue) 65
New Direct-Consumption Sugar Produced By Low-Cost Process 172
Recommendations for Control of Johnson Grass And Other Weeds In Sugarcane 142
Sugarcane Research Pays Big Dividends 139

VOLUME No. 32

Stunting Disease

Picture Of Heating Van 92
Progress Report On the Study Of Stunting Disease 170

VOLUME No. 33

Heating Unit No. 1 242
Heating Unit No. 2 244
Heating Unit No. 3 246
Southdown's Experience With Heat-Treated Seed Cane 294
Report Of The Committee On Control Of Stunting Disease 226

VOLUME No. 32

Sugar Legislation

Excerpts From Agricultural Appropriation Hearings Regarding Quota Increase 218
Senator Ellender Speaks For Quota Increase 230
Willis Speaks For Mainland Cane Quota Increase 217

VOLUME No. 33

Mr. Duhe Writes To Mr. Taft 214
Summary Of Testimony Of Frank A. Kemp 270
Testimony Of W. C. Kemper 271

VOLUME No. 32

Sugar Exchange

Address Of President Chas. A. Levy At The Annual Meeting Of The Louisiana Sugar Exchange 199
Rules of The Louisiana Sugar Exchange Governing Quotations Of Louisiana Blackstrap Molasses 25
Rules Of The Louisiana Sugar Exchange Governing Louisiana Raw Sugar Quotations 26

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(Title 39, United States Code, Section 233)

Of The Sugar Bulletin, published semi-monthly at New Orleans, La., for October 1, 1955, State of Louisiana, Parish of Orleans.

Before me, a Notary Public in and for the State and parish aforesaid, personally appeared Gilbert J. Durbin, who, having been duly sworn the Editor of the Sugar Bulletin and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Acts of March 3, 1933, and July 2, 1946, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit.

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3. That the known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are none.

GILBERT J. DURBIN,
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Sworn to and subscribed before me this 3rd day of October, 1955.

BRITTMAR P. LANDRY,
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(Seal)

(My commission expires at death.)

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In This Issue

Up Front With The League 51
The Freight Differential—Distinguished Visitors—To Visit India—Correction

In The Field With Lloyd L. Lauden 52
Confused

In Washington With Joe Ferris 53
CCC Sugar Purchase—Three Records—New Uses For Sugar

Statement For 1965 Consumption Requirements On Behalf Of The Domestic Sugar Producers 54

'Right To Work' Law Epilogue 55

Market Review 58

Trash Determination As Specified By The ASC. 59

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in the interests of the Domestic Sugar Cane Industry

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Lloyd L. Lauden, Agronomist and Field Representative

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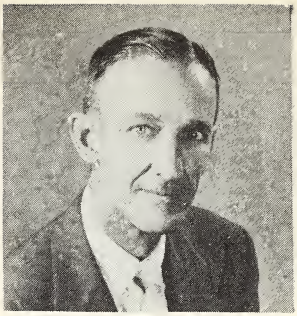
UP FRONT WITH THE LEAGUE

by A. W. DYKERS



The Freight Differential

One of the burning questions in Louisiana circles right now is why the Louisiana Sugar exchange is quoting the New Orleans price of raw sugar 9 points under the price quoted for raw sugar in New York.

The Sugar Quotation Committee of the Exchange has made a study of the present situation and approved a letter written to an interested cane farmer explaining the daily quotations issued by the Exchange. We believe that the entire Louisiana sugar industry will be interested in this letter and we are printing it below.

"A copy of your letter of November 7th to Mr. Durbin, relative to the 9 cent freight differential in the New York and New Orleans raw sugar quotations, has been referred to the Exchange for an explanation.

"The system of establishing the New Orleans quotation on raw sugar by deducting the difference in freight between Cuba and New York and Cuba and New Orleans on days when no spot sales to the New Orleans refiners are recorded, was first used in the 1948-49 season. It was adopted by the Executive Committee of the Exchange as a protective measure for the local industry.

"Prior to the 1948-49 season, local quotations were established exclusively by sales of Louisiana raws to the New Orleans refiners and the price paid was carried over from day to day until another sale was made. As a great bulk of the Louisiana raw sugar production was, and still is, sold on average price contracts, the old system resulted in a very few sales, usually of distressed sugar, fixing the price for the entire Louisiana crop. Obviously this was not a healthy condition, especially as pre-war records show Louisiana spot sales as much as 25 points under the going New York quotation.

"The quotation that we use today is the daily New York spot quotation as fixed by the New York Coffee and Sugar Exchange, less a daily freight differential between Cuba and New York and Cuba and New Orleans. The frieght rates are wired to the Exchange daily by the freight brokerage firm of James E. Ward and Co. of New York City.

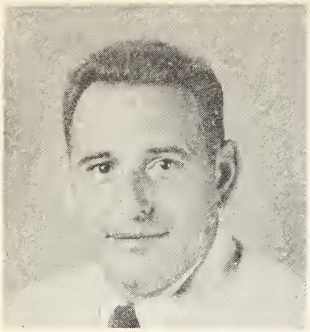
"We began using the Ward freight quotations in 1949 and the freight differentials for the Louisiana pricing periods through the 1954-55 crop have been as follows:

1949-50 season	2.25	cents
1950-51 season	2.68	cents
1951-52 season	4.5	cents
1952-53 season	4.438	cents
1953-54 season	3.424	cents
1954-55 season	4.56	cents

"We believe that the New Orleans prices quoted by the Exchange during the seasons listed above have resulted in the Louisiana growers and processors being paid higher prices for their products than they would have received if the old method of pricing raws had been used by the Exchange.

"This season, probably because of the small quantity of 1955 Louisiana

(Continued on page 61)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Confused

Even though harvest began later this year than usual, sucrose and purity was not as good as tests were for the earlier starting dates last year.

Many in the industry including the writer, thought that cold weather would check growth and result in a fast increase in maturity. The sugar belt received cold weather but sucrose and purity did not improve nearly as much as was expected.

The cool dry days during the first two weeks of grinding allowed the maximum amount of cane to be harvested and milled. Grinding rates were good; sucrose and purity, in general, did not materially improve. Those in the industry with long experience thought that a good rain would result in a rapid improvement of both sucrose and purity. The industry received the rain. Six days after the rain, and at the time of this writing, there has not been very much improvement. Perhaps it is to come.

The cane that went down before and during harvest is causing considerable t r o u b l e. Much of the downed cane is being harvested by hand cutters. It was thought by many that this cane would sucker greatly and result in poorer sucrose and purity than standing cane. The lodged cane has not suckered any more than standing cane. Many reports have indicated that sucrose and purity in the lodged cane has not been different from that of standing cane. Perhaps hand cutting this cane with selective topping accounts for the lack of difference in sucrose and purity. A few reports from some sections indicate that hand cut cane is actually lower in sucrose and purity than machine cut cane. High topping, where cane is hand cut and paid for by the ton, is reported as the reason.

Why the center of the fields went down leaving the two rows next to the ditches and the space between headlands and quarter drains standing can be explained by difference in yield of the center of the field and the outlying borders. Ditch bank rows cannot usually be cultivated properly and therefore do not yield heavily. The ends of rows are not generally cultivated or fertilized as well as the center of the field and therefore yields are not as heavy there. In general it was the heavy yielding fields that went down. There are also a few fields of all varieties that went down in spite of low yields. These were caused by locally heavy winds.

Much effort on the part of the sugar cane breeders of the U.S.D.A. and L.S.U. is being spent on developing early maturing, erect varieties. Special emphasis is being given to high sucrose early maturing crosses. In the opinion of the writer, it is merely a matter of plenty of work and time before the efforts of this work bear fruit. Remember these scientists gave the industry the varieties in the field today. The varieties in the field today are an improvement over those that came earlier. The next canes will be better than those in the field today.

(Continued on page 61)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

CCC Sugar Purchase

The announcement by the Government of its intention to purchase 100,000 tons of domestic sugar by the end of 1955 came after months of negotiation between the Administration and representatives of domestic sugar producers. The sugar purchase was first proposed by the Government during hearings on sugar legislation held by the Committee on Agriculture of the House of Representatives last summer.

The Administration spokesman proposed the purchase in lieu of a quota increase for domestic sugar producers in 1955. Unfortunately, for all parties concerned, Congress failed to pass sugar legislation.

Administration spokesmen, while admitting the urgent need by continental cane and beet sugar producers for relief from burdensome quantities of over-quota sugar which, under the existing law could not be sold, maintained that the proposed purchase was part of a "package deal" for legislation, and inasmuch as the legislation failed to pass, the Government was not obligated to buy the over-quota sugar.

After some fifteen conferences between high Government officials and domestic sugar men, the Government agreed to have Commodity Credit Corporation purchase 71,500 tons of cane sugar and 28,500 tons of beet sugar.

Accordingly, Lawrence Myers, Director of the Sugar Division, U. S. Department of Agriculture, called a meeting of refiners and representatives of raw sugar mills the afternoon of November 3rd to discuss details of the Mainland Cane Area's share of the purchase. Mr. Myers assured the sugar people that the Government would make prompt efforts to begin lifting the sugar but he could not guarantee that much of it would be moved before the end of the year. Mr. Myers said that some small portion of the total may be purchased as raw sugar but the greater part of the 71,500-ton purchase will be refined sugar.

The price the Government will pay will be the New Orleans price, raw basis, on the day the contracts are signed. Inasmuch as the bulk of the sugar will be refined, it will be necessary for CCC to negotiate with refiners in the Area as to the fee that will be paid to process Louisiana and Florida raw sugar into refined.

Mr. Myers said he hoped to apportion the purchase in an equitable manner among all the raw mills in the Area. Representatives of refiners and CCC met November 14th to agree on the final details. Mr. Myers said he hoped to close the deal before the meeting adjourned.

Three Records

The shortest estimate of consumption hearing on record was held in Washington on November 2nd. The hearing began at 10 A.M. and adjourned at 12:30 P.M.

For the first time in history, a single spokesman appeared on behalf of the entire domestic sugar producing industry. Frank A. Kemp, President of the Great Western Sugar Company, presented a brief on behalf of the growers and pro-

(Continued on page 61)

STATEMENT FOR 1956 CONSUMPTION REQUIREMENTS ON BEHALF OF DOMESTIC SUGAR PRODUCERS

(Washington, November 2nd, 1955)

Mr. Chairman and Members of the Hearing Panel:

This statement is presented on behalf of the four American sugar producing groups: (1) the sugarcane growers and processors of Louisiana and Florida, (2) the growers and processors of the Hawaiian sugar industry, (3) the growers and processors of sugarcane in Puerto Rico, and (4) the sugar beet growers and processors of the 22 states in which beets are grown from Michigan and Ohio to California and Washington. The members of the organizations subscribing to this statement grow and process virtually all the sugarcane and sugar beets in the United States.

This is the ninth successive year in which the Department has afforded interested parties an opportunity to present their views with respect to sugar quotas for the following calendar year. In past years, there have been many separate appearances on behalf of the several domestic sugar producing areas of the United States. Many of these spokesmen in the past have set forth in detail the specific manner in which they believed the Secretary should handle and weigh the various factors which under the Sugar Act he must take into consideration in making sugar consumption requirement determinations. Some of these domestic representatives in some years have indicated an exact figure which they thought the Secretary should use. However, all domestic spokesmen have at all times consistently urged continued caution and careful timing in the promulgation of sugar consumption requirement determinations.

The extensive, thorough, and detailed statements made at these hearings in the past by representatives of the domestic sugar producing industry are of record and are available to Department officials. The basic data pertinent to the establishment of the 1956 initial determination is also readily available, much of it set forth in the October issue of Sugar Reports. Accordingly, the domestic sugar producing industry joins in a single statement at this hearing designed only briefly to emphasize the over-all considerations which it is believed should guide the Secretary in making his sugar consumption requirement determinations for 1956.

Domestic sugar producers believe that the over-riding consideration should be to make available to consumers during the coming year adequate supplies of sugar at prices fair to them which will also fairly and equitably maintain and protect the welfare of the domestic sugar industry.

The Secretary has always made adequate sugar supplies available to housewives and industrial sugar users at prices fair to them. On this point, the public record is crystal clear and needs no elaboration here. Sugar remains the lowest cost ingredient of most sugar containing foods and beverages. Sugar still is the housewife's best food buy.

On the other hand, sugar production costs, like other production costs continue to increase, while the average price of sugar has declined. The extent of the cost-price squeeze on domestic sugar producers, not revealed by over-all indices, is perhaps most clearly outlined by the facts which show 1955 average New York, duty-paid raw sugar prices declining 2% from last year and 6% from 1953, while the cost of farm labor and farm supplies is increasing. During the past twelve months farm wage rates have gone up 3%, building and fencing materials have gone up 4%, farm taxes

(Continued on page 60)

'RIGHT-TO-WORK' LAW EPILOGUE

(From the November 11th Issue of the New Orleans Chamber of Commerce Bulletin)

What has happened in Louisiana since the date on which the "Right-to-Work" law became effective—July 28, 1954? According to reports made by the Louisiana Department of Labor, Division of Employment Security, in its publication, the "Louisiana Labor Market," total non-agricultural employment in Louisiana in September 1955 was 699,600, as compared with 695,800 in September 1954.

Employment in the New Orleans area chalked up another gain in September 1955 as totals pushed up towards 302,000, representing a gain in every month since June 1955, according to the October 1955 report on "Labor Market Trends," published by the Louisiana Division of Employment Security.

With reference to wage scales, the average earnings in manufacturing, as published in the "Louisiana Labor Market" for September 1955, are reported at $70.31 as compared with $65.73 for September 1954—a gain in average weekly earnings since the passage of the law in 1954 of $4.58 per week.

Average hourly earnings in manufacturing in September 1955 are reported by the State Department of Labor at $1.67 per hour; September 1954 at $1.58, and August 1953 at $1.55.

The average weekly hours as reported by the Louisiana Department of Labor—that is, hours worked or paid for in manufacturing—in September 1955 was 42.1 as compared with 41.6 hours in September 1954.

What about the number of jobs available? In the October 1955 report on "New Orleans Labor Market Trends," it is reported that 4,456 jobs were listed by employers with the State Employment Service, of which 500 were unfilled jobs carried over at the beginning of September. At the end of September there were 540 jobs unfilled and available.

Total wages paid in 1954 by employers covered under the Louisiana Employment Security Law, that is, all employers of four or more, was $1,706,417,349; in 1953 it was $1,672,345,397 — an increase for 1954 of $34,071,952.

The total number of employers of four or more reported at the end of 1954 was 20,356 as against 19,777 at the end of 1953—a gain for 1954 of 579 employers, which means a gain of 2,316 jobs.

According to the "Blue Book of Southern Progress," total income for the state as reported in 1953 was $3,464,000,000; in 1954 it reached $3,719,000,000—an increase of 7.4%. Per capita income likewise showed an increase of 3.4% for 1954 as against 1953; per capita income was reported in 1954 at $1,272; in 1953 at $1,230.

While it is not to be inferred that these improvements are the result of our "Right-to-Work" law, they should allay the fears of those who said they expected more unemployment, lower pay and the economic decline of our state to follow its enactment.

Louisiana's "Right-to-Work" law protects the right of its citizens to

(Continued on page 60)

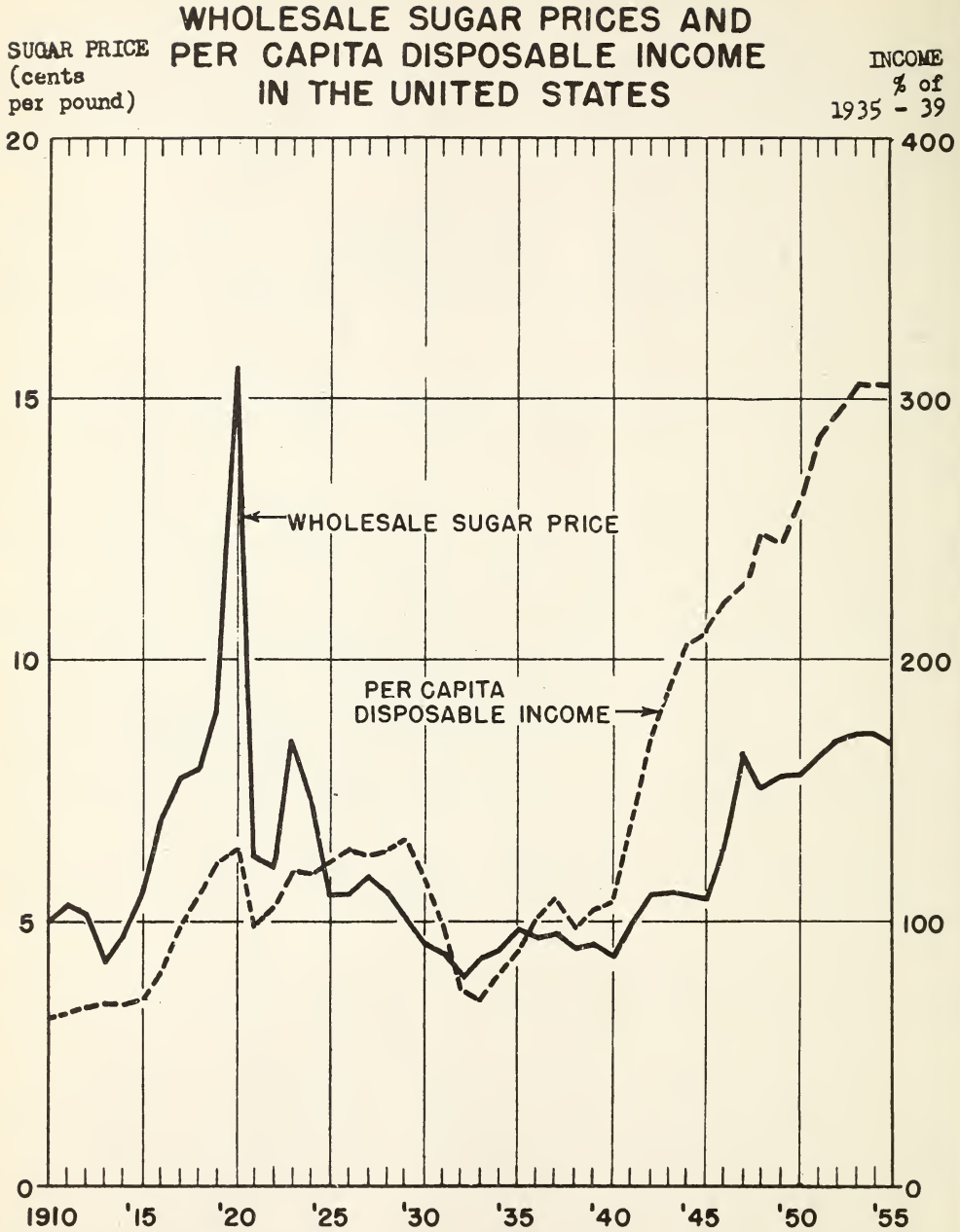


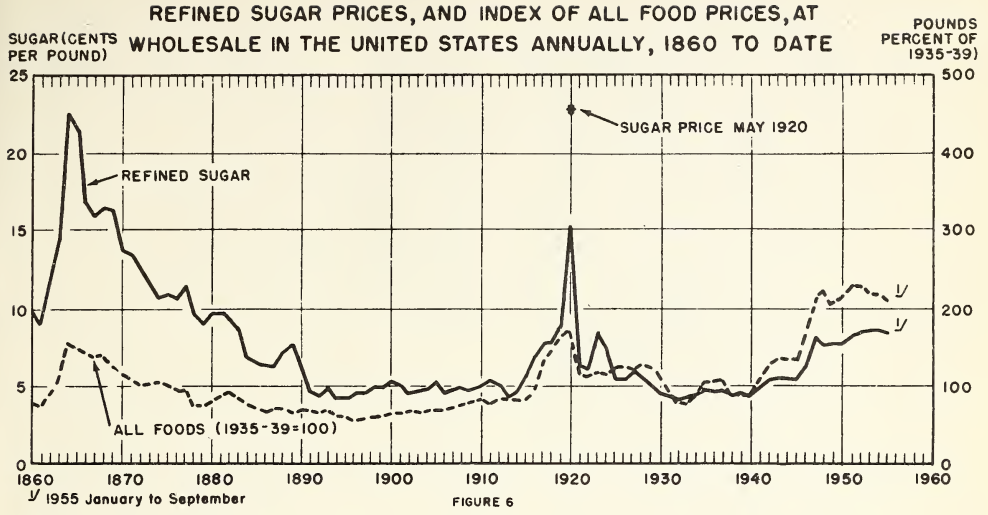
FIGURE 5

1/1955 January to September.
2/1955 Estimated.

U.S. DEPARTMENT OF AGRICULTURE

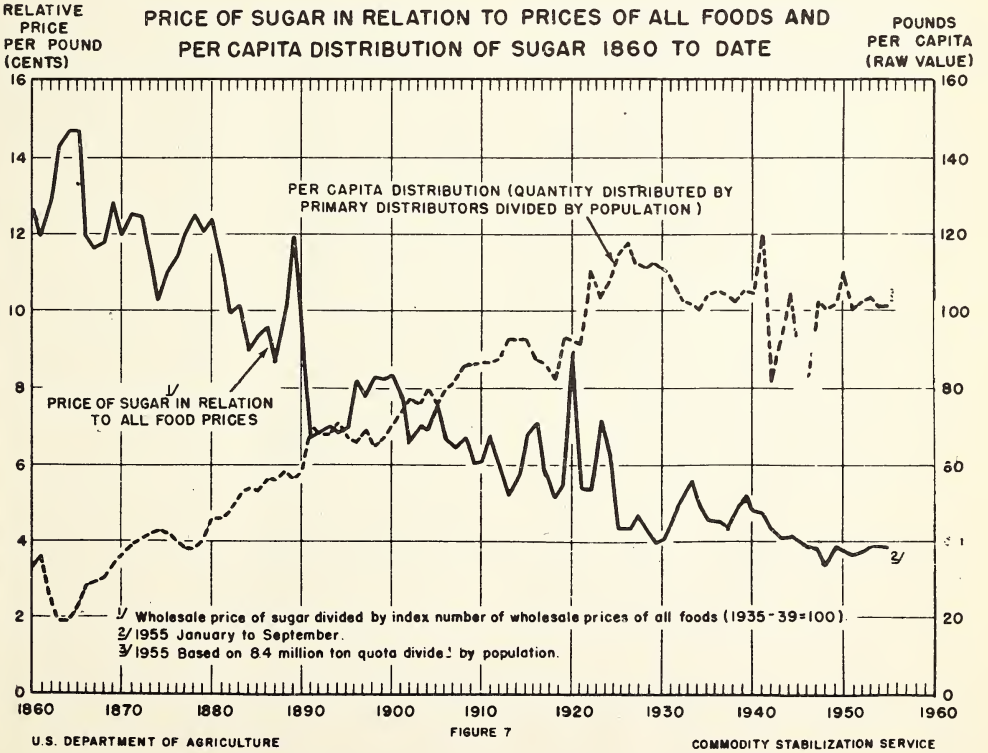
FIGURE 7

COMMODITY STABILIZATION SERVICE



1/ 1955 January to September

FIGURE 6



1/ Wholesale price of sugar divided by index number of wholesale prices of all foods (1935-39=100).
2/ 1955 January to September.
3/ 1955 Based on 8.4 million ton quota divided by population.

FIGURE 7

U.S. DEPARTMENT OF AGRICULTURE — COMMODITY STABILIZATION SERVICE

MARKET REVIEW

(From Sugar Report #42 of the CSS of the USDA)

Deliveries of sugar continued at a high level during September and totaled 6,509 thousand tons through September of this year as compared to 6,269 thousand tons at the same time last year, an increase of 240 thousand tons. By the end of the first week of October, deliveries in 1955 were 266 thousand tons ahead of last year. Deliveries during each of the months of June, July, August, and September exceeded 800 thousand tons. This is the first time since a Sugar Act has been operative that there have been four consecutive months above that level.

In recognition of the continued strong demand, the Department announced on October 5 that total sugar quotas would be increased to 8,400 thousand tons effective October 8. Cuba received 96 thousand tons of the 100 thousand increase and the other 4 thousand were added to the quotas of the "full duty" countries.

During September, cane sugar sold at $8.40 in the Chicago-West territory and beet sugar at $8.20. However, effective October 5, prices increased 10 cents per hundredweight in that territory without opportunity for orders at the previous price. Eastern refiners announced on October 5 a 10-cent price increase from $8.55 to $8.65 to be effective at the close of business October 7. All orders booked at the old price were for delivery by October 14. The price increase was effective throughout the East, except for the area supplied by Boston refineries. Southern refiners announced a 10-cent price increase to $8.55 on October 17, effective immediately.

Beet sugar processors had delivered approximately 1,500 thousand tons of their 1,800 thousand-ton marketing quota through September, leaving only 300 thousand tons for delivery during the last quarter of this year. By contrast, beet sugar deliveries totaled 486 thousand tons during the fourth quarter of 1954 of which 59 thousand were constructive deliveries and the remaining 427 thousand tons represented sugar physically available for consumption in 1954. Similarly, 406 thousand tons of fourth quarter beet sugar deliveries in 1953 were available for consumption during that period. The unsatisfied demand for beet sugar must, of course, be filled by cane sugar during the balance of this year.

Cane sugar refiners reduced their stocks by 24 thousand tons in September as compared to an 80 thousand-ton reduction in September 1954. Their end-of-September stocks amounted to 512 thousand tons as compared to 490 thousand on September 30, 1954, and an average of 510 thousand for 1951-1954.

The price of raw sugar, duty paid New York, averaged 6.00 cents per pound during September, down .02 cent from August. During the first half of October, the average was 6.06 cents per pound. During September 1954, the average price was 5.98 and was 5.96 in October 1954. World raws averaged 3.27 cents per pound during the month of September, up .05 cent from August and during the first half of October averaged 3.29 cents per pound. The September 1954 average price for world raw sugar was 3.21 and for October 1954 3.25 cents.

Quota charges to all domestic areas and to the Philippines on September 30 totaled 4,463 thousand tons as compared to only 4,086 thousand tons on September 30, 1954. * By contrast, only 2,213 thousand tons of sugar had been charged to the Cuban quota on September 30, 1955, compared to a Cuban quota charge of 2,497 thousand tons a year earlier. The more rapid marketing so far this year of domestic

TRASH DETERMINATION AS SPECIFIED BY THE ASC

A uniform sample of sugar cane weighing between fifty and a hundred pounds and containing not less than twenty-five stalks shall be removed from each bundle to be tested after it has been lifted from the truck, car, or barge and placed on the ground or loading table in a loosened condition. The sample should be a grab sample taken either manually or mechanically from both ends of the bundle and care should be taken to disturb the sample as little as possible to avoid loss of trash. It should then be placed on a canvass or in a suitable container for weighing.

Weighing should be done on a platform scale properly calibrated and adjusted to give correct weights. Spring type scales are not satisfactory. After the gross weight of actual sugar cane, the tare and the net weight of trashy cane have been recorded in a suitable record book, the cane is stripped of the leaves, dirt, and other extraneous material and the loose sugar cane tops are thrown out. If there are tops still attached to stalks at or above the green leaf roll, they, too, are to be removed. When removing attached tops be sure no formed joints are taken off. The cleaned cane (not the trash), together with the tare, is weighed and recorded. The amount of trash is obtained by difference and the percentage calculated.

In the case of large shippers, one trash determination should be made for approximately each twenty-five or thirty tons of sugar cane delivered. For small shippers a test shall be made as often as possible, consistent with good sampling practices and economy. Trash determinations shall be made on a processor's own cane as well as the cane of independent producers and in the same proportion. The simple or weighted average or daily deliveries will be used in computing trash deductions.

Processors may refuse to accept sugar cane that is not properly topped or cleaned in the field, but such refusal shall not be used as a device to reduce the return on such cane to the producer below that specified in the determination.

Producers will have the privilege of witnessing all trash determinations and such determinations will be subject to review by representatives of the State ASC Office. Processors will furnish producers with statements showing the amounts of trash deducted as often and at such times as may be necessary to keep producers informed currently. Processors will make trash reports to the State ASC Office when requested and a final trash report at the end of the harvesting season.

---

and Philippines sugar in the United States and the complementary slowing up of Cuban marketings have the effect of distributing Cuban sugar marketings in the United States more evenly over the four quarters of this year than has been customary in recent years.

Typically, the rate of Cuban sugar marketings in the last quarter of the year is reduced and the emphasis is on mainland beet and cane sugar marketings. With relatively small amounts of sugar under the mainland beet and cane area quotas available, more Cuban sugar than usual will be required to fill our needs during the balance of the year.

Cuba shipped 45 percent of her total sugar exports during the first eight and a half months of this year to the world free market as compared to only 37 percent in 1954. The relationship this year is about the same as the average relationship for the last three, four, and five years. The proportion of Cuban world free market sales to United

(Continued on next page)

'RIGHT TO WORK' EPILOGUE

(Continued from page 55)

work, whether they choose to belong to a union or not. At the same time it guarantees their right to join or not to join an organization of their own choice. It does not take any right from the worker. He may join a union, retain his membership, and continue to share in the gains for labor achieved by the organization.

So far, we think, Louisiana's experience under the act supports the beliefs of its proponents.

MARKET REVIEW

(Continued from page 59)

States sales has usually been higher during the last quarter of the year than during the first three quarters. The situation very likely may be different this year. No large world market requirements are in sight to match the prospective United States demand for Cuban sugar during the next few months. Looking further ahead, there is more uncertainty about the world free market demand for sugar. Cuban sugar imports into the United States this year can be expected to be over 2.8 million tons, well in excess of 1953 and 1954 imports of 2,766 and 2,721 thousand tons, respectively.

———o———

CONSUMPTION

(Continued from page 54)

have gone up 5%, interest has gone up 8%, and farm machniery has gone up 9%. Processors' costs likewise have gone up during the past year. These increases are illustrated by wage rates up 2½%, paper bags up 4%, petroleum products up 5%, coal up 6%, iron and steel up 9%, and some factory items, like cutter knives up 30%.

Secretary Benson has repeatedly recognized the burden of the current cost-price squeeze on domestic producers. For example, in his speech before the Farm Equipment Institute in New Orleans on September 20, Secretary Benson, referring to the recent 7% price boosts in certain farm machinery items, voiced his concern over " . . . increases in farm equipment prices at a time when agricultural income has been moving in the opposite direction." In this same speech, the Secretary went on to say, " . . . most food prices have remained stable during recent years only because the farmer has paid virtually the entire added cost of moving agricultural products to the ultimate consumer." Again in New Orleans, the Secretary said that higher wages and increased costs of transportation and handling " . . . have prevented consumers from enjoying the savings which otherwise would have stemmed from increased agricultural efficiency and lower farm prices."

In conclusion, domestic sugar producers reiterate the basic principles of the position they have taken in the past — that the Secretary, in making his consumption requirement determinations for 1956, should continue to be guided by both of the fundamental purposes of the Sugar Act. He should make available sugar supplies which will meet consumers' needs at fair prices, and at the same time, he should recognize that the domestic producers require protection from the cost-price squeeze that threatens them.

Association of Sugar Producers of Puerto Rico,
Puerto Rican Farm Bureau
By *Dudley Smith*
Hawaiian Sugar Planters Association
By *Slator M. Miller*
American Sugar Cane League, Florida Sugar Producers
By *Josiah Ferris*
Farmers and Manufacturers Beet Sugar Association
By *Arthur A. Shcupp*
Western Beet Growers As-

sociation
By *E. W. Rising*
California Beet Growers Association, Ltd.
By *Gordon Lyons*
National Beet Growers Federation
By *Richard W. Blake*
United States Beet Sugar Association
By *Robert H. Shields*

IN WASHINGTON

(Continued from page 53)

cessors of Louisiana and Florida, Hawaii, Puerto Rico, and the growers and processors of the 22 states in which sugar beets are grown.

Spokesmen for industrial users were Gorden P. Peyton, on behalf of certain industrial users of sugar; Wilbur H. Glenn, appearing for the American Bottlers of Carbonated Beverages and the Soft Drink Industry; Harry R. Chapman, for the National Confectioners' Association and the Associated Retail Confectioners of the United States; Joseph M .Creed, for the American Bakers' Association; Robert Hibben, representing the International Association of Ice Cream Manufacturers. All recommended a quota of not less than 8,875,000 tons for 1956.

As usual, the industrial users bitterly attacked the Secretary of Agriculture for failing to administer the Sugar Act to suit them. They particularly criticized him for announcing a quota smaller than the actual requirements in an effort to bring about better prices for domestic producers.

Cuban spokesmen at the hearing included Laurence A. Crosby, who appeared for the U. S.-Cuban Sugar Counsel, and Dr. Arturo Manas, who spoke for the Cuban Sugar Stabilization Institute.

Dr. Urbano Zafra, Commercial Counsellor of the Philippine Embassy, and Dr. Jesus M. Troncoso of the Dominican Republic, appeared for their respective countries.

Sugar Division Director, Lawrence Myers, was the presiding officer and also established a record by asking witnesses only two questions. In the past, Mr. Myers sometimes has conducted fiery cross-examinations of witnesses.

New Uses For Sugar

Some seventy persons met in the Pan American Room at the Statler Hotel on November 2nd to hear a representative of Sugar Association's advertising agency explain the advertising program for 1956.

Dr. Henry B. Hass, President of Sugar Research Foundation, Inc., gave a very interesting talk on new uses for sugar which will be announced in the near future. According to Dr. Hass, these new uses may possibly triple the present sugar requirements of the world.

IN THE FIELD

(Continued from page 52)

Many farmers in the belt would have found it very profitable to have had 15 per cent or more of the crop in C.P. 48-103. C.P. 48-103 was released this year and recommended for planting on light soils. It is the earliest maturing variety ever introduced in the Louisiana cane fields. Farmers would have been able to start with "par" cane or better with C.P. 48-103 and would have been ready to deliver cane at an earlier date.

UP FRONT

(Continued from page 51)

quota raws available for delivery, an abnormal condition has developed in the ocean freight market. Usually during the Louisiana grinding season little, if any, Cuban raws are received by the local refiners. This year the refiners have brought small quantities of Cuban sugar to tide them over until the first of the year. The ship owners are competing for this business and have bid down the ocean freight charges to New Orleans. Today the Ward people advised us that it costs 54 cents a hundred to ship sugar from Cuba to New York and 45 cents a hundred to ship sugar from Cuba to

New Orleans. This is a difference of nine cents.

"We feel quite confident that the freight differential will return to normal just as soon as 1956 quota sugars begin to move from Cuba to New Orleans and the competition among the shippers subsides."

Distinguished Visitors

The Louisiana sugar industry was honored during the first week in November by the visit of a delegation from Puerto Rico which came here to make a study of the various machines that are being used in the Louisiana cane fields.

Heading the delegation was Mr. Luis Rivera Santos, Secretary of Agriculture and Commerce of the Commonwealth of Puerto Rico. Others in the party were:

Mr. Francisco A. Arrillaga, Executive Director, Puerto Rico Land Authority; Mr. Raul J. Tous, Ass't Executive Director, P. R. Land Authority, In Charge of Agricultural Programs; Mr. Fausto Olano, Special Ass't Executive Director, P. R. Land Authority; Mr. Eduardo Girod, Chief Mechanical Engineer, P. R. Land Authority; Mr. Carlos A. Irizarry, Fajardo Farms, P. R. Land Authority, Mechanical Engr.; Mr. Ronualdo Irizarry, Supervisor, Plazuela Farms, P. R. Land Authority; Mr. Francisco Mendez, Chief, Tenants Dept., P. R. Land Authority; Mr. Jose Rosa Coates, Supervisor, Loiza Farms, P. R. Land Authority; Mr. Alfonso Reboyras, Supervisor, Toa Farms, P. R. Land Authority; Mr. Luis E. Villamor, Director, New Orleans Office, Commonwealth of Puerto Rico, Dept of Agriculture and Commerce. Mr. Edwin R. Torregrosa, Ass't Gen. Mgr., Puerto Rico Iron Works, San Juan, P. R.

The interest in the Louisiana sugar cane industry and its highly mechanized operations is further illustrated by the fact that in addition to the delegation of Officials of Puerto Rican Land Authority who visited the Cane Belt several other visitors from private industries have recently visited our industry.

Mr. Frank Beale, Managing Partner of Luce & Co., Central Aguirre, P. R., together with Mr. H. A. Willett, Supervisor of Mechanization, of the same firm spent several days in Thibodaux and vicinity recently taking in points of interest to them in connection with their own sugar operations.

Also scheduled for a visit is Mr. "Tito" Cabrer, Assistant General Manager of the Roig interests of Puerto Rico. Besides their Puerto Rican operations the Roig interests are extensive U. S. sugar operators as well, owning and operating the Fellsmere sugar corporation in Florida and are also interested in the Sterling Sugars, Inc., operation of Franklin, La.

To Visit India

While on the subject of "distingushed visitors" we note that both Dr. E. V. Abbott, Superintendent of the U. S. Sugarcane Field Station at Houma, and Dr. S. J. P. Chilton, Head of the Department of Plant Pathology of Louisiana State University, are planning to attend the Ninth Congress of the International Society of Sugar Cane Technologists scheduled for January 1956 in India.

Dr. Abbott has already left this Country for Formosa where he will spend about two months at the sugarcane experiment station as the guest of the Taiwan Government. Enroute he will visit the Hawaiian Sugar Planters' Association Experiment Station and is also planning a stop in the Philippines to become familiar with the "Fiji" disease of sugarcane. He will return to the Houma station in February.

Dr. Chilton's trip will begin early in December. He expects to make stops in Australia to study the stunting disease and in Hawaii to observe the cane breeding program being conducted by the experts of Hawaii.

Correction

Mr. Lauden has called our attention to a mistake in the spelling of the name of the very cooperative Mr.

Charles Breau, Jr., of St. Gabriel, which occurred in the last issue of *The Sugar Bulletin.*

We put an "x" at the end of Mr. Breau's name and it didn't belong there. Mr. Breau says the members of the clan who use the "x" are the "rich Breauxs" and that he is not in the "x" category. We apologize to Mr. Lauden and to Mr. Breau for our mistake.

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If you are counting calories, this fact is even more important–

Sugar can help you cut down on the number of calories you eat

Research findings show how raising your blood sugar level helps keep your appetite–and weight–under control

This is one of a series of advertisements of Sugar Information Incorporated designed to counteract some of the false propaganda being utilized by anti-sugar groups.

Mrs. Grace Cameron, Librarian
University Station
Baton Rouge, La. (3)

THE SUGAR BULLETIN

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In This Issue

Up Front With The League 67
The 100,000 Ton Purchase—Cubans On The Prowl—Plantation Exhibition—Edward P. Munson Dies

In The Field With Loyd L. Lauden 68
A Few Problems Of Sugar Cane Breeding

In Washington With Joe Ferris 69
The Over-Quota Sugar Purhase—The Great Let-Down

Testing Of Sugarcane Varietal Milling Qualities. (L. P. Hebert and George Arceneaux) 70

Sugar Market Statistics Through November 25, 1955. 77

The Dean Lee Scholarship Fund 78

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in the interests of the Domestic Sugar Cane Industry

THE
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Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. DYKERS

The 100,000 Ton Purchase

As most everyone knows, the Sugar Division has decided to purchase 100,000 tons of over-quota sugar to relieve the over-quota burden of the Louisiana and Florida cane sugar producers and some of the beet sugar producers. The purchase will be divided 71,500 tons from Louisiana and Florida, and 28,500 tons from the beet sugar producers.

All the beet sugar will be refined sugar. It is expected that all of the cane sugar will be raw sugar. Joe Ferris covers the Washington events leading up to the purchase in his report on page 69 of this issue.

A meeting of the Louisiana sugar producers was held in Thibodaux on November 18th to discuss the purchase and agreement was reached regarding allocations for the individual mills.

Many other problems involved in the purchase were discussed at the meeting and others are being met as they develop.

We will endeavor to keep you posted on the progress of the purchase program.

Cubans On The Prowl

We note from the press that the Cubans are on the prowl again. A delegation from Cuba left the Island on November 27th to call on the "business men of the United States to give them the facts on the commercial importance of Cuba to them and their communities." Cities on the trip itinerary are Atlanta, Richmond, Wilmington, Buffalo, Pittsburg, Washington, Toledo, Indianapolis, Milwaukee, Decatur and St. Louis.

The idea of the trip is, of course, to try to influence coming sugar quota legislation in favor of Cuba.

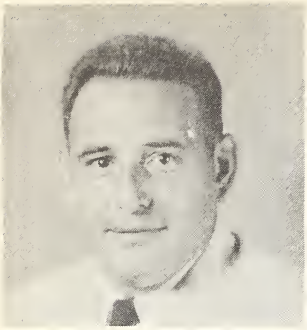
You would think that the outcome of the "grab it all" campaign the Cubans tried earlier this year would have taught them a lesson but they, apparently, have to learn the hard way—which reminds us of Aesop's Fable about the greedy dog and the meat which goes like this.

It happened that a dog had got a piece of meat and was carrying it home in his mouth to eat it in peace. On his way home he had to cross a plank lying across a running brook. As he crossed he looked down and saw his own shadow reflecting in the water beneath. Thinking it was another dog with another piece of meat he made up his mind to have that also. So he made a snap at the shadow in the water but, as he opened his mouth, the piece of meat fell out, dropped into the water, and was never seen again.

The moral—"Beware lest you lose the substance by grasping the shadow".

Mexico, our third best customer (Cuba is sixth), Peru, and other foreign countries present very convincing arguments that Cuba has been given too large a share of the U. S. sugar market. If the Cubans persist in trying to dictate the sugar policy of the United States, they, like Aesop's fabled dog, could end up with a lot less than they already have.

(Continued on page 79)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

A Few Problems of Sugar Cane Breeding

It is a known fact that every stalk of cane of the variety C. P. 44-101 grown in Louisiana, or anywhere else in the world, originally came from one tiny seed smaller than the head of a straight pin. It is also a known fact that each variety in the Louisiana cane fields made its start as a single true seed.

Although this is known, very few in the industry recognize the amount of time, effort and money that is spent in getting that one special seed. It takes about 8 to 10 years, more than 75,000 seedlings, long hours of toil on the part of many, and more than $100,000 to produce a commercial variety of cane. The sifting through the 75,000 seedlings, each one a separate and distinct variety, to find several that show promise is, in itself, a very large job. The testing of the promising selections takes the full time of 4 scientists in Louisiana and the cooperation of many others in the industry. More than 50 cooperators in the industry give some time to the increase of the promising unreleased varieties.

The planning and the actual operation of making specific crosses to produce true seed requires both knowledge of the science and skill in the technique. There are many methods used to make two varieties flower at the same time in order to produce a specific cross.

There are many problems confronting the sugar cane plant breeder. There are also many characteristics that a cane must possess before it will be generally accepted by the Louisiana sugar cane farmer. A cane must be able to produce a satisfactory tonnage in a 9 month growing period. It also must have satisfactory sucrose content and at the right time. Purity must be above a certain point to be accepted. The variety must not be brittle. It should have some resistance to borers, and show some resistance to the many sugar cane diseases in Louisiana. It must not deteriorate rapidly after being cut. To be acceptable it must stubble well in spite of the cold wet winters experienced in Louisiana. Fiber content must not be too high. For mechanical harvest, the variety must be erect. There are also many minor characteristics that are desired in a cane but which are not absolutely necessary.

The sugar cane plant breeders of L. S. U. and the U. S. D. A. find that it is very simple to combine two or three of these characteristics into one variety. It is, however, almost impossible to combine all the characteristics mentioned into one single plant.

The Louisiana sugar industry has been fortunate to have had experts to pattern sugar cane to fit Louisiana conditions. Once it was necessary to windrow cane for spring planting. The varieties in the field today can be planted at almost any time. It can be said that the varieties are "tailor-made" for the mechanical harvester. Without resistance to Red Rot and Mosaic a variety cannot survive. Resistance to

(Continued on page 78)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The Over-Quota Sugar Purchase

Government purchase of over-quota sugar now seems assured. As the Bulletin goes to press, representatives of Mainland Cane processors and officials of the Sugar Division, U. S. D. A., are busily engaged in drafting terms of the contract.

The Government will offer each processor a contract to supply raw sugar on the basis of the highest point of enforced storage during his 1954-55 operations. He will be paid the Louisiana season's average price f.o.b. cars New Orleans, the sugar to be packed in 250-lb. bags suitable for export. If the processor elects to ship his sugar in bulk instead of bags, the price will be the same, less the customary bag deduction.

The Government will pay the cost of bagging and moving the sugar from the commercial railroad terminal in New Orleans to ship's side.

Although the Government will enter into firm contracts with producers within the next few days, no actual deliveries of Louisiana sugar are expected to be made before January 1, 1956. Pro forma payment of $4.80 per cwt. for 96° sugar will be made upon receipt of bill of lading and certification of weights and tests. The final payment, of course, cannot be made until after the close of the season.

Each shipper will be notified by the Government two weeks before his shipment to New Orleans is to be made.

The Government also has agreed that sugar purchased under this program will not be considered as history of marketing in connection with the marketing allotments for 1956 and subsequent years.

The Great Let-Down

Monday, November 17, 1955 will be remembered by certain southern refiners and at least one northern refiner as the day of the great let-down. Larry Myers, Sugar Division Director, invited the refiners to meet with him and Mainland raw sugar producers to discuss terms of the Mainland Cane over-quota sugar purchase. The refiners understood that the Government would buy the sugar in refined form and the 71,500-ton deal looked like a nice piece of business.

They were almost drooling over the prospect that fine, crisp fall morning when Mr. Myers called the meeting to order and announced a change of plans. The purchase, he said, would all be raw sugar. It would be used in the Government "give-away" program and would be sent to various countries under the wing of International Cooperation Administration where it would be refined locally.

The first few moments following Myers' announcement are difficult to describe. There was a deep silence, then as blood pressures promptly mounted knuckles began to pop and tongues to wag. But being

Editor's Note: The provisions of the purchase contract are now being negotiated with the Sugar Division. The final provisions of the purchase contract may or may not be the same as those outlined above by Mr. Ferris. It is always difficult to know exactly where you stand when you do business with the Government.

(Continued on page 78)

TESTS OF SUGARCANE VARIETAL MILLING QUALITIES

By L. P. Hebert, Research Agronomist, and George Arceneaux, formerly Principal Agronomist, Field Crops Research Branch, Agricultural Research Service, United States Department of Agriculture

The testing of a crop plant for yield quality is never a simple matter at best, but difficulties of making an accurate test of sugarcane varieties to determine comparative yields of sugar are probably not exceeded with any other field crop. One of the principal difficulties stems from the fact that the problem, while principally in the field of Agronomy, has important aspects in the fields of milling and sugar manufacture. Therefore, the ideal investigator for the over-all job would be one combining knowledge in such far-flung specialties as design of field experiments, practical agricultural operations, Mechanical Engineering, and Industrial Chemistry.

We propose to discuss certain varietal characters of significant importance in the theoretical sugar recovery equation, our system of measuring such characters, and the place of such measurements in the over-all picture of varietal sugar yield determination. It is needless to say that this discussion is presented from the point of view of an agronomist. We might add that in phases of the study pertaining to factory technology we employed methods and procedures that are considered basic and elementary in present-day factory control in Louisiana, among which might be mentioned the concept of normal juice as a measure of juice extraction and use of the Winter-Carp Formula to determine recoverable sugar.

In our evaluation of a sugarcane variety for commercial use in comparison with other varieties, two values are of paramount importance, viz: (1) quality of cane as indicated by available sugar per ton of cane and (2) yield of sugar per acre. The essential purpose of a yield test is to measure these two values with accuracy. Basic facts upon which such determinations must ordinarily be based are: (1) analysis of the juice from a mill crusher or laboratory mill (primary juice) and (2) comparative yield of cane obtained by actual field tests. In order to determine the commercially available yield of sugar per ton of cane by conventional formula, it is necessary to know also the ratio of commercially extractable juice to cane, usually expressed as normal juice, and the exact composition of such juice.

It should be emphasized here that, for the purpose of a comparative yield test, accuracy in measuring relative yields rather than absolute yields is the important objective. In a test of such variables as rate of planting, depth of planting and rate of fertilization, where a single variety is involved, the essential purpose will be realized by assuming a representative value for normal juice extraction percent cane and a characteristic drop in Brix and percent sucrose between primary juice and normal juice. But when the test involves a comparison of different varieties it is evident that varietal differences with respect to milling qualities could introduce a systematic error in an absolute as well as a relative sense.

The system now used at the Houma Station for equating varietal differences with respect to factors affecting available sugar per unit of cane as applied to primary juice analyses was initiated in 1931 and reported in 1933.[8] Essentially it consists of milling small but highly comparable samples of cane to commercial levels of juice extraction under carefully controlled conditions. Each sample is milled four times under hydraulic pressure of 32 tons or the equivalent of 2.286 tons per linear inch of roll. Under the standardized condition of 18% macera-

tion divided equally between the last three millings, extraction of sucrose ordinarily ranges from 92% to 94%.

Weights and the customary analytical data on (1) juice from first (primary juice), (2) combined juice from subsequent millings, and (3) bagasse, supply the necessary information for the calculation of milling results in accordance with conventional methods,[11] chapters 34, 35, 36. Percent solids in juice is determined by Brix hydrometer, percent sucrose in juice by polarization, and percent fiber in bagasse is determined directly, after diffusion. A constant Brix reduction factor of .985, as indicated by results of dry milling tests, is assumed in calculating extraction percent cane and other values of normal juice.

Determinations of principal interest are (1) normal juice extraction percent cane, (2) factor for reduction in percent sucrose from crusher juice to normal juice, and (3) fiber percent cane. The first two have a direct application in sugar yield calculations based on primary juice analyses, and supply a basis for generalizing on corrections required for varietal differences. Computed values of fiber percent cane supply a good check on parallel determinations of normal juice extraction.

An important feature of our system is the use of samples of cane of different varieties as nearly comparable as can be obtained. Our replicated variety tests present an ideal source for such samples. A 6 x 6 Latin Square for instance arranges the plots of each variety in such a way that effect of a soil fertility or drainage gradient in either of the two main directions will tend to be reflected equally on the average of each variety. It has been our ex-

Table 1. Normal Juice Extraction Percent Cane

Station	Crop	Year	VARIETY				
			Co. 281	C. P. 28/11	C. P. 28/19	C. P. 29/116	C. P. 29/320
Erath	Plant	1934	77.5	75.4	75.1	79.9	78.8
Alma	Plant	1934	81.0	76.7	76.4	83.0	78.8
Greenwood ..	Plant	1934	78.9	74.3	74.7	77.8	77.7
Albania	Plant	1934	76.5	72.3	73.1	79.3	74.0
Albania	Stubble	1935	77.9	75.1	72.9	79.9	74.3
L. Landry ..	Stubble	1935	75.7	72.7	72.0	79.7	73.8
Erath	Stubble	1935	78.2	73.3	73.7	79.8	74.4
Greenwood ..	Stubble	1935	76.0	72.9	73.7	80.1	75.4
Oaklawn	Stubble	1936	77.3	72.8	73.9	78.7	74.8
Greenwood ..	Stubble	1936	77.6	74.9	74.7	80.9	76.4
Albania	Plant	1936	78.8	75.8	76.5	81.5	76.7
Raceland ...	Plant	1936	79.2	75.3	75.5	80.2	77.9
Albania	Stubble	1936	77.4	74.0	75.3	80.1	75.4
Erath	Stubble	1936	78.6	74.2	76.6	81.8	74.7
S.L.I.	Stubble	1936	78.9	76.2	76.3	78.5	76.5
Mean			77.97	74.39	74.69	80.08	75.97

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Square	F.	St. dev.	Coefficient of Variability (percent)
Varieties	4	343.10	85.775	96.2		
Tests	14	97.59	6.971	7.8		
Error	56	49.96	0.892	-	0.944	1.23
Total	74	490.65				

perience that soil differences, even within the same cut, can have a significant effect on fiber content as well as on yield of cane and juice composition. In assembling varietal lots of cane for milling comparisons from such a test, a uniform number of stalks is taken at random from each of the plots of each variety. We consider this precaution of extreme importance in our attempt to neutralize effects of soil differences or other environmental variables.

Since 1931, tests of varietal milling qualities have been made annually at the Houma Station.[3] A total of 130 varieties have been tested in milling trials involving 1,047 separate determinations.

Results obtained in experimental milling tests with five varieties of widely different milling qualities over a period of three years at eight stations in Louisiana are discussed in a recent report.[7] The most significant disclosure of this particular study is that the relative position of any two varieties with respect to normal juice extraction % cane tended to remain the same although absolute values did change considerably from test to test. This is illustrated by data given in table 1.

It will be noted that while the over-all level of juice extraction varied considerably from test to test, relative varietal positions tended to remain more or less the same. The order of over-all average values with C. P. 29/116 first, Co. 281 second, followed by C. P. 29/320 and finally by the approximately equal C. P. 28/19 and C. P. 28/11, was maintained with only minor discrepencies due to small experimental variations.

Parallel determinations of reduction factor to convert sucrose percent primary juice to sucrose percent normal juice were also made; average varietal values for the 15 tests were as follows:

C. P. 28/19	= 0.9714
C. P. 28/11	= 0.9721
Co. 281	= 0.9728
C. P. 29/320	= 0.9751
C. P. 29/116	= 0.9819

These determinations show an extremely important variety effect with well maintained relationship from test to test, as indicated by a variability coefficient of 0.32%. The average value of 0.9819 which has been observed with C. P. 29/116 is significantly higher than the average of any other variety. C. P. 29/320 maintained a significantly higher sucrose reduction factor than either C. P. 28/11 or C. P. 28/19. Other differences between varietal averages are not statistically significant at the .05 level of probability.

In contrast, experimental determinations of varietal cane yield per acre and composition of primary juice have been highly variable, as measured by variety x locality interaction.[5, 6] This highly variable condition may cause a variety to appear to have a relatively good advantage with respect to another variety in tests at a given locality and maintain an opposite position in equally accurate tests at another locality. Thus, in comparing two varieties for cane yield, results obtained at Houma would not be applicable at Oaklawn in either an absolute or relative sense. The same is true, although to a somewhat lesser degree, with respect to varietal position as to composition of primary juice. It is therefore concluded that our procedure of conducting repeated tests in which varietal comparisons will be made as to yield of cane per acre and primary juice composition at representative stations is absolutely necessary for an accurate appraisal of relative varietal adaptability under various growing conditions.

It would be theoretically possible to devise a system of sugarcane variety tests in which cane yields would be measured, the juice from representative samples extracted to commercial milling levels, measured and analyzed in each test, but the labor and time required for elaborate milling tests in each experiment would be prohibitive.

The system of variety yield tests developed at the Houma Station

makes use of the fact that the varietal normal juice extraction and the sucrose reduction factor are in a relative sense approximately constant. That is to say that whereas extractable juice in cane of any given variety may vary considerably up or down depending on age of cane or growing conditions, the position of one variety with respect to any other variety will tend to remain the same. This applies to sucrose reduction factor.

Each new variety selected for plantation yield trials is rated with respect to the above two qualities in comparison with a control variety (Co. 281) of known milling characteristics in replicated milling tests as described earlier. Next, we determine the effect of observed differences on the calculated yield of sugar. This we do by first calculating the indicated yield of sugar per ton of cane based on both the primary juice of the new variety and also on its own normal juice extraction and sucrose reduction factor. We then take the above primary juice analysis of the new variety and determine the indicated yield of sugar per ton of the cane using values of normal juice extraction and sucrose reduction factor obtained with the control variety in the same test. Thus, in the case of a variety with normal juice extraction and sucrose reduction factor

Table 2. Varietal Correction Factors in Relation to Co. 281.

Station	Crop	Year	VARIETY C. P. 28/11	C. P. 28/19	C. P. 29/116	C. P. 29/320
Erath	Plant	1934	.98	.97	1.05	1.03
Alma	Plant	1934	.94	.94	1.04	.98
Greenwood	Plant	1934	.96	.95	1.00	1.00
Albania	Plant	1934	.95	.96	1.05	.97
Albania	Stubble	1935	.96	.94	1.04	.96
L. Landry	Stubble	1935	.95	.95	1.08	.99
Erath	Stubble	1935	.94	.94	1.04	.96
Greenwood	Stubble	1935	.96	.97	1.07	.99
Oaklawn	Stubble	1936	.93	.94	1.04	.97
Greenwood	Stubble	1936	.96	.96	1.06	.99
Albania	Plant	1936	.96	.97	1.05	.98
Raceland	Plant	1936	.94	.95	1.06	.99
Albania	Stubble	1936	.95	.97	1.05	.98
Erath	Stubble	1936	.96	.97	1.06	.96
S.L.I.	Stubble	1936	.96	.96	1.00	.97
Mean			.953	.956	1.046	.981

Analysis of Variance

Source	D.F.	Squares	Square	F.	St. Dev.	Coefficient of Variability
Varieties	3	.083632	.027877	98.64		
Error	56	.015827	.0002826		.01681	1.71
Total	59	.099459				

higher than the control, calculated sugar yields will be underestimated when based on milling factors of the control. Likewise, the opposite will be true in case of a variety with values of these two milling factors lower than the control. The ratio of the yield of the new variety based on its own milling factors to its yield using milling factors of the control variety is the varietal correction factor for the new variety. For instance, let us assume that the indicated yield of sugar per ton of cane of the new variety is calculated to be 161.5 pounds according to the normal juice extraction and the sucrose reduction factor actually obtained. Let us also assume that when values of normal juice extraction and sucrose reduction factor as observed with the control variety in the same test are applied to primary juice of the new variety, the calculated yield is 170 pounds. In this case, using values of the two milling factors (normal juice extraction and sucrose reduction factor) that are representative of the control variety has the effect of increasing the sugar yield of the new variety over its indicated yield. This differential may be removed by multiplying the sugar yield of 170 by the correction factor which in this case is 161.5 divided by 170 or .95.

The above example defines our concept of varietal correction factor and illustrates its derivation from basic data. Such a varietal correction factor, in this case .95, integrates the combined effects of departure of the new variety from the control in normal juice extraction and in the sucrose reduction factor. Since as stated above these two milling factors have proved relatively stable varietal characters in a comparative sense it may be assumed that a term integrating their combined effect will be correspondingly stable.

Table 2 gives varietal correction factors as computed for each of 4 varieties in relation to Co. 281 in the 15 tests described earlier. Again it is clearly shown that variety effect is the principal source of variation. The error term comprising variance from all sources except main effects of varieties, and reflecting among other things the disturbing effects of differences between stations, crops, and years is exceedingly small, as indicated by a coefficient of variability of 1.71%.

A statistical analysis shows further that differences in growing conditions between different sections fo the "Sugar Belt" in Louisiana had no significant effect on a varietal correction factor as herein defined. This is likewise true of differences between crops and of differences between years. Thus, there is no evidence that a varietal correction factor developed from cane grown at Houma will not be applicable under conditions at Erath, for instance, or any evidence that a correction factor for stubble will be any different from that of plant cane.

Hence, our observations indicate that the correction factor for any given variety will tend to approach a constant under a wide range of conditions when determined with sufficient accuracy; an average value based on 10 determinations has been found sufficiently accurate to meet essential requirements of comparative field tests.

Calculating Sugar Yields from Experimental Data

According to our system, yield determinations in connection with comparative variety tests are based on the Winter-Carp formula applied to analysis of primary juice obtained from samples of sugarcane crushed by means of the Houma Station mill in a single operation. Milling and recovery factors as follows are used in the case of Co. 281 and varieties of similar milling qualities: Brix reduction factor = .985; reduction factor for percent sucrose = .970; Normal Juice extraction = 76 percent; Boiling House efficiency number = 100 percent. Milling factors listed above are also

used in calculating yields of sugar per ton of cane for other varieties; however, the yield values obtained are adjusted by multiplying by the proper correction factors for the varieties involved as defined earlier. Routine calculations are expedited by use of Arceneaux's simplification of the Winter-Carp formula with x and y factors appropriately adjusted for variety effect.

In this connection a comparison of indicated sugar yields based on (a) Houma Station factors, and (b) Determination of Commercially Recoverable sugar per Commodity Stabilization Service, U. S. D. A.,[1, 2] shown below, is of interest:

The above juice analyses include a range of values for sucrose (pol) percent normal juice typical of Louisiana conditions with a representative purity in each case. It will be noted that the raw sugar yield computed for C. P. 36/105 was in each case slightly higher than the corresponding value according to C.R.S. tables, the average difference being approximately 3 percent. Also, C. P. 36/105, while the most widely planted variety in Louisiana during recent years, probably gave a somewhat lower normal juice extraction than obtained from the crop as a whole. Thus, the difference in calculated values between the two methods on the same mill cane is probably of the order of 5% to 6%. This difference may be attributed to the relatively high level of sucrose extraction obtained with the experimental unit, and the unfavorable effect of trash on present-day commercial factory performance in Louisiana.

It will be noted that yields of raw sugar calculated on the basis of Co. 290 experimental milling results are much higher than corresponding ones according to C.R.S. tables as shown by an average difference of approximately 11%. This reflects largely a variety effect, Co. 290 being far superior in milling qualities to the concurrent crop acreage in Louisiana and points up the importance of making due allowance for varietal differences in yield comparisons.

Also shown in the table is the raw sugar yield for each of the analyses shown calculated for C. P. 36/105 according to the C.C.S. (Commercial Cane Sugar) formula used in Queensland. The latter method takes into consideration Brix and percent sucrose (pol) of first expressed juce and fiber content of the cane [10] page 67. The representative value of 13.48 percent fiber observed in our tests with C. P. 36/105 was taken in each case. Values according to the C.C.S. formula were broadly in aggreement with, though slightly higher than, corresponding values for available sugar according to Houma Station factors with an average difference of 3.65%. This is considered interesting in view of the difference in approaches. The Houma system is based on actual measurements of juice extraction in con-

Table 3. Indicated Yield of Sugar per Ton of Cane

NORMAL JUICE			Approximate primary juice, Houma Laboratory Mill		Indicated yield of raw sugar per ton of cane (lbs.) as based on:			
						Houma Station Factors		C.C.S. 2/
Brix	Percent Sucrose	Purity	Brix	Percent Sucrose	C.R.S. 1/	with C.P. 36/105 (V.C.F.=.98)	with Co. 290 (V.C.F.= 1.06)	formula as applied to C.P. 36/105
14.23	10.00	70.27	14.45	10.31	125.8	128.9	139.4	131.5
14.92	11.00	73.73	15.15	11.34	142.0	146.3	158.3	150.8
15.95	12.00	75.24	16.19	12.37	156.9	161.7	174.9	167.3
16.61	13.00	78.27	16.86	13.40	173.9	179.3	193.9	186.9
17.34	14.00	80.74	17.60	14.43	190.6	196.5	212.5	205.9

[1] Commercially Recoverable Sugar Table for Louisiana. Commodity Stabilization Service, U.S.D.A.

[2] Commercial Cane Sugar Formula as used in Queensland.

trast with generalized adjustments according to fiber content applied in Queensland. Incidently, the C.C.S. determinations in Queensland are used in the purchase of cane and in experimental work with the understanding that they represent a level of efficiency substantially above the performance of commercial factories of the region. This relationship as in the case of yields based on Houma Station factors compared with Louisiana factory performance is the usual one between an ideal system and actual achievement. An ideal system based on fixed values for mill and boiling house performance is considered essential for an accurate interpretation of results of sugarcane variety tests, especially in analyses of basic yield trends in relation to time as reported in a recent publication.[4]

In conclusion, we would like to emphasize a few points bearing on results of this study:

In the first place, we have used methods such as experimental design and plot replication which are standard practice in agronomic research in order to obtain varietal cane samples of high comparability. By use of such samples in experimental milling tests simulating factory operation, we were able to measure comparative varietal normal juice extraction and sucrose reduction factor with high statistical precision and obtained results that could be readily duplicated from test to test.

Secondly, evidence accumulated over the years indicates that in a relative sense varietal qualities controlling the two above-mentioned factors are relatively stable. Differences between stations, between crops, and between years had no significant effect on the position of a variety in relation to some other variety as regards either of these two factors. This is our basis for the use of a generalized factor to compensate for the favorable or unfavorable qualities of any given variety in relation to the control. A varietal correction factor as defined and illustrated above to compensate for such varietal departures from the control has been found to be essentially a constant when determined with sufficient accuracy.

Thirdly, application of a varietal correction factor has the effect of removing bias in relative yields of sugar per ton of cane and per acre, but yields computed theoretically for comparative purposes are not necessarily values that will be actually realized at the factory. The latter will depend on how representative of the particular factory are the milling factors assumed for the control and on the condition of the cane from the experimental area as a whole.

However, when expressed as percentages of the control, varietal yields should be essentially the same in either case. Fundamentally, the statistical interpretation will not be affected by assuming a basic set of milling factors that are either higher or lower than those to be realized under prevailing conditions.

Finally, a generalization to characterize certain qualities of a given sugarcane variety will be of value only if the final expression is reasonably constant. If we should attempt to integrate several factors, some of which are fairly constant and others more variable, the net result will be a value more variable than either one of the underlying factors. A good example of that would be to attempt to characterize a variety with respect to extractable sucrose. The latter depends on proportionate juice extraction which is fairly constant in a comparative sense and on juice composition which is much more variable both in an absolute and comparative sense. Our system is to generalize only on those varietal qualities that are reasonably constant and to measure the more variable qualities such as cane yield and juice composition in an appropriate series of field experiments repeated from place to place.

SUGAR MARKET STATISTICS THROUGH NOV. 25, 1955

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.00	6.05	6.15
QUOTA RAWS DELIVERED NEW ORLEANS	5.92	5.96	6.10
WORLD SPOT RAWS (In Cuba)	3.14	3.26	3.25

SUGAR FUTURES No. 6
(Closing Bid Prices)

	Mch.	May	July
Today	5.34	5.40	5.49
1 Month Ago	5.36	5.43	5.51
1 Year Ago	5.41	5.46	5.60

OFFSHORE RECEIPTS AT NEW ORLEANS
(Long Tons, 2,240 lbs.)

	To Date 1955	Same Date 1954
American	384,989 tons	320,890 tons
Godchaux	176,975 tons	209,721 tons
Colonial	120,391 tons	150,108 tons
Henderson	89,520 tons	70,877 tons
Southdown	24,789 tons	13,039 tons
South Coast	52,211 tons	70,852 tons
Supreme	101,578 tons	90,570 tons
Totals	950,453 tons	926,057 tons

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THE DEAN LEE SCHOLARSHIP FUND

Dean J. G. Lee, Jr. retires from his position as Dean of the L.S.U. College of Agriculture June 30, 1956. Farmers and others who are grateful for Dean Lee's many years of work on behalf of Louisiana Agriculture now have an opportunity to express their thanks to him in a tangible way.

Voluntary contributions are being solicited to establish an investment fund which will provide for a perpetual scholarship in honor of Dean Lee. If you contribute to the fund, you will have the satisfaction of knowing (1) you have participated in giving due recognition to a distinguished man whose life's work has benefited all Louisiana farm people and (2) you have helped make it possible for worthy students to attend L.S.U. who otherwise might not have this opportunity.

A small part of the money collected will be used to pay for a portrait of Dean Lee to occupy a place of prominence at some appropriate place on the L.S.U. campus.

Under Dean Lee's administration there has been a tremendous expansion and improvement in not only the teaching program on the L.S.U. campus, but also in agricultural research all over the State and in the Agricultural Extension Service. The sugar industry has profited from the work done by the L.S.U. College of Agriculture, and this is a chance for us to show our appreciation.

Make your check payable to *"Dean Lee Scholarship and Portrait Fund,"* and mail it to the League office as quickly as possible.

IN THE FIELD

(Continued from page 68)

these diseases have been bred into Louisiana varieties.

This year's cane breeding season is well under way. Because the Louisiana variety picture is fairly bright, the sugar cane plant breeder can devote some time to certain genetic studies that will be of material value in the future. In the past, cane breeders have been under constant pressure to produce varieties for immediate use. There is more time now for detailed studies that will benefit the overall breeding program. The three cooperating agencies, Louisiana State Agricultural Experiment Station, the United States Department of Agriculture, and the American Sugar Cane League, through their joint efforts, will continue to strive to produce more and better canes for Louisiana farmers.

—o—

IN WASHINGTON

(Continued from page 69)

the fine gentlemanly sportsmen they are and having years of training in the arduous business of buying, processing and selling sugar which, to some extent had prepared them for disappointments of this nature, breathing was soon back to normal and good humor restored. Most of the refiners stayed until the end of the meeting and were very helpful with their suggestions as to how the sugar could be assembled and delivered to the Government.

The only casualty suffered was by yours truly whose topcoat inadvertently made a trip to New York on the shoulders of one of the refiner representatives.

UP FRONT

(Continued from page 67)

Plantation Exhibit

Mr. Chas. A. Levy, President of the Louisiana State Museum, has advised us that the Museum intends to put on an exhibition at the famed Cabildo in New Orleans of Louisiana sugar plantation homes and sugar factories. He has asked us to assist in locating some appropriate material for the exhibit.

If you have, or know of, any old prints, or other material that would be appropriate for a display of this kind, we suggest that you contact Mr. Levy, care of the Louisiana State Museum, Jackson Square, New Orleans, La.

Each contributor will, of course, be given full credit in the display for the items contributed.

Ed Munson Dies

The writer is certainly sorry to record the death of Edward P. Munson, who passed away on Monday, November 28th. Ed was a sorta special friend of ours. We didn't see him very often, maybe once or twice a year, but when we did, it always was a pleasure. Ed was a gentleman of the "old school" and we will miss him.

We join with the rest of the Louisiana sugar industry in extending our deepest sympathy to his widow and four children who survive him; to his three sisters, and to his brother, Stephen C. Munson, who is another special friend of ours.

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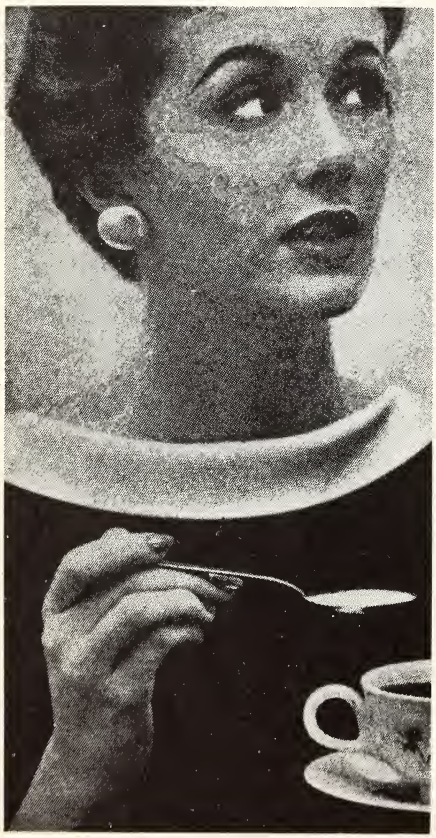
How many calories in a spoonful of sugar?



200 ☐ 100 ☐ 50 ☐ 18 ☐

Some guess as high as 600, but the right answer is only 18 calories in a level teaspoonful

If you are counting calories, this fact is even more important–

Sugar can help you cut down on the number of calories you eat

Research findings show how raising your blood sugar level helps keep your appetite–and weight–under control

This is one of a series of advertisements of Sugar Information Incorporated designed to counteract some of the false propaganda being utilized by anti-sugar groups.

Mrs. Grace Camero..
University Station
Baton Rouge, La. (3)

THE SUGAR BULLETIN

Vol. 34—No. 6 DECEMBER 15, 1955

Official Bulletin of the American Sugar Cane League of the U. S. A.

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In This Issue

Up Front With The League 83
Season's Greetings—Bagasse Paper—Strike Settled—J. Norman Efferson—Advisory Committee Meets

In The Field With Lloyd L. Lauden 84
Near End Of Grinding

In Washington With Joe Ferris 85

Possibilities For Expanding The Market For Sugarcane Bagasse 86

Paradoxes, Inconsistencies And Sugar 87

Aerial View Of Valentine Pulp And Paper Company, Lockport, La. 90

World Centrifugal Sugar Production Up About 600,000 Tons 91

Commercially Recoverable Sugar Determination For 1955 Crop 92

Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
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414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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Josiah Ferris, Manager

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UP FRONT WITH THE LEAGUE

by A. W. DYKERS

Season's Greetings

It is hard to believe it, but this is the final 1955 issue of *The Sugar Bulletin,* which means that all of us again have the privilege of wishing all of you a Merry Christmas and a Happy and Prosperous New Year. Good luck.

Bagasse Paper

We had the pleasure of visiting the new paper mill of the Valentine Pulp and Paper Company at Lockport a few days ago and were amazed at the way they manage to turn plain old sugarcane bagasse into the prettiest white paper you ever saw. This paper making project is quite an outfit. An air view of the plant and the adjoining Valentine sugar factory is on page 90 of this issue.

We began printing The Sugar Bulletin on Valentine bagasse paper on January 1st 1955 and when this issue comes off the press we will have completed twenty-four issues of very satisfactory press work with this newest by-product of the Louisiana sugar industry.

The capacity of the Valentine plant has been increased to 75 tons of paper a day and the plant is working 'round the clock on bagasse furnished by three Louisiana mills.

Strike Settled

We remember how the late Will Rogers used to say that all he knew was what he read in the newspapers and that's about the fix we are in at this particular moment regarding the settlement of the strike at the big Godchaux Reserve Refinery.

A newspaper article says that the eight month old strike has been settled but that nobody is telling nobody nothing at present regarding the terms of the settlement.

We notice, however, that those great big men are no longer carrying those little bitty signs back and forth, back and forth, in front of the Carondelet Building, eleven stories below the Godchaux office, so the strike must be over sure enough!

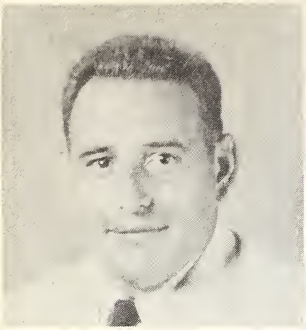
J. Norman Efferson

We also see by the papers that our good friend Dr. J. Norman Efferson has been named Dean of the College of Agriculture of Louisiana State University and will take up his new duties on July 1st, 1956. He will succeed another very good friend of the Louisiana sugar industry, Dean Jordan G. Lee, Jr., who will retire on June 30th after 25 years as head of the College of Agriculture of L. S. U.

We take this opportunity to publicly congratulate Dr. Efferson on being selected to head the College of Agriculture and also to congratulate the Board of Administrators of L. S. U. on their good judgment in picking him to guide the destinies of the future farmers of Louisiana.

We also extend our congratulations to Dean Lee for the wonderful job that he has done during his twenty-five years of leadership. He has but to look around to see what the past quarter of a century has meant to the College of Agriculture of Louisiana State University. It is great to be able to retire a winner, and Dean Lee is doing just that.

(Continued on page 93)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Near End of Grinding

It is hoped that cool weather will persist. Warm, sunny, humid or rainy days can cause serious loss to cane which has been killed by freezes. In many fields in the belt, buds have been killed almost to the ground and in some instances buds have been killed to the ground. Cane damaged by freezes to this degree can deteriorate very rapidly following hot weather.

Fortunately 85% or better of the crop has been harvested. The Bunkie area has completed it's crop. The New Roads, Lakeland area has a sizeable amount of damaged cane but this cane is being taken out of the fields at a rapid rate.

The Upper River area has some damaged cane but this is also being taken out rapidly and at least one mill in the area will finish grinding by December 19th. Some of the cane damaged by the November 5th freeze had to be cut low, but no cane will be lost in the area. One other mill in the area should complete its crop shortly after Christmas.

The St. James and Vacherie area will not complete milling until near the end of the year and there is a good possibility that one mill will be grinding several days into the new year. The Reserve area will not have all the crop in until the first of the new year.

Even though the late freezes caused some damage to the upper and middle Lafourche area, grinding rates have not been seriously impaired. Most mills in the area will complete grinding either by Christmas or shortly thereafter.

The Raceland and Mathews areas will still be grinding several days after Christmas. The Lockport area will not complete milling until the end of the first week in the new year. Some cane on the heavy soils have been killed but this is being harvested rapidly and if good weather holds no cane will be abandoned in the area.

All cane in the Terrebonne area should be through the mills by the 1st of the year.

Cane on the Lower Teche or the St. Mary Parish area has not been badly damaged and grinding rates have been good. One mill will be finished grinding shortly before Christmas. Other mills in the general area will not finish until after that time and probably not until the first of the year.

In Iberia Parish three mills will be finished grinding by December 20, the others should finish about Christmas time. Although some cane has been damaged by the cold, good grinding rates have been experienced. The damaged cane in the parish is being topped low to improve sucrose and purity. No cane is expected to be abandoned in the parish.

Cane was damaged early in the St. Martinville area. It is reported that a small amount of cane will be left in the field because quality will be too low to justify milling. One mill in the area will complete grinding on December 20.

The Youngsville, Broussard area received severe freezes but not as

(Continued on page 94)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Hardworking USDA Sugar Division officials at last have sugar purchase contracts ready for mailing to Mainland Cane sugar processors.

Requisitions have been issued by ICA (International Cooperation Administration) for procurement of refined and raw sugar. Funds for the procurement have been allocated as follows:

Vietnam—$2,238,000—
Terminal Delivery Date:
January 31, 1956
Cambodia—$535,000—
Terminal Delivery Date:
February 29, 1956

Requisitions for other ICA countries are expected to follow.

In referring to Sugar Division officials as "hardworking" we mean HARDWORKING.

In addition to the unusually heavy seasonal routine, they burned midnight oil to draft purchase contracts for Mainland Beet and Cane sugar processors, to work up the Secretary of Agriculture's estimate of U. S. sugar consumption for 1956, to compile data for use at the Mainland marketing allotment hearing to be held in New Orleans on January 19, 1956, and to prepare for appearance before the Senate Finance Committee which will hold hearings on sugar legislation early in January. They have earned their Holiday. We wish them a Merry, Merry Christmas and a headache-free New Year.

The boss of the Sugar Division, Director Lawrence Myers, has just returned from London where he presided as Chairman of the International Sugar Council which met from November 28th to December 1st.

Among the important items of business transacted by the Council was a 10 percent cut in basic export tonnages of member countries. The initial export quotas for 1956 were set at a total of 3,996,000 metric tons, raw value.

Dr. Arturo M. Manas of Cuba, well and favorably known in Washington sugar circles, was unanimously elected Chairman of the Council for the ensuing year.

The next meeting of the Council will be January 25, 1956.

The month of December not only brought to Washington some of the coldest weather in history but it also brought what appears to be one of the hottest political potatoes the farm-conscious Republican Administration so far has had to handle.

Stormy petrel Ezra Taft Benson, Secretary of Agriculture, is now advocating high price supports for agricultural commodities. A year ago, he was outspoken for supports of not more than 75 percent of parity. Benson is father of the "soil bank" program and has called a meeting in Washington of the 18-member National Agricultural Advisory Commission to make recommendations for his 15-year plan to curb farm production.

Secretary Benson recently disclosed that President Eisenhower

(Continued on page 94)

POSSIBILITIES FOR EXPANDING THE MARKET FOR SUGARCANE BAGASSE

By George H. Goldsborough and Kenneth E. Anderson, agricultural economists, Marketing Research Division, Agricultural Marketing Service

Summary and Conclusions

Bagasse, the fibrous portion of sugarcane, is a byproduct of sugar processing; and it has physical characteristics making it suitable for use for commercial products. As a result, considerable technical research has been devoted to the development of processes for using bagasse commercially. However, presently only about 10 percent is being used commercially; the rest is burned as fuel in sugar mill furnaces.

In the United States the largest commercial uses for bagasse are in the production of insulation board and poultry litter. Also thermoplastic thermosetting resins and mulch are produced, and in mid-1954 construction was completed on a small pulp and paper plant. A furfural plant using bagasse is under construction in the Dominican Republic. To be economically feasible in the long run, a commercial use for bagasse must return to the sugar mill an amount equal to or above the cost of alternate fuel. This study undertook to evaluate the possibilities of expanding the present market and developing a market for future bagasse products. The principal criteria used in this evaluation were relative quality and cost of bagasse products compared to those of competing products, and probable market growth for products which are being and can be made from bagasse. Under these criteria, the following observations are made regarding the possibilities of expanding the market for bagasse:

1. The possibilities for using bagasse as a raw material for pulp, paper, and paperboard products appear the most promising in the production of corrugating material and pulp for blending with wood pulp in the manufacture of fine, wrapping, bag, newsprint, and magazine papers, and linerboard. Other possibilities are glassine and greasproof papers.

Depithed bagasse makes excellent corrugating medium with superior strength, and relatively good greaseproof and glassine papers. For manufacturing fine papers, bagasse pulp is a desirable supplement to wood pulp and is substitutable for varying percentages of woodpulp in making wrapping, bag, newsprint, and magazine papers and linerboard. No data are available on the relative cost of the entire manufacturing process for paper and paperboard using bagasse and competing raw materials. However, the cost of producing bleached and unbleached pulp from depithed bagasse compares favorably with pulp costs using other raw materials in small commercial operations.

Since 1930 output of paper and paperboard has tripled, and there seems to have been no abatement in the general growth trend. Of the container boards, the consumption of fourdrinier kraft liner and semichemical corrugating medium has expanded most rapidly since 1942. The consumption of fine, newsprint, and printing papers has remained about the same as a percent of the total since 1942. The production of glassine and greaseproof papers has not changed in terms of total output in recent years, while the production of bag papers has increased. The published financial statements of pulp, paper, and paperboard manufacturers indicate that the reporting firms, generally the industry's largest, had very favorable cost-price relationship from 1947 to 1951. In 1952 and 1953, the net profit-net worth ratio of the report-

(Continued on page 93)

PARADOXES, INCONSISTENCIES AND SUGAR

By Dr. George P. Meade

This thought provoking and amusing address was presented by Dr. Meade at a meeting of the American Society of Sugar Cane Technologists some months ago. We thought you would enjoy reading it as a Holiday treat. (Editor)

The privilege of addressing the American Society of Sugar Cane Technologists at their annual banquet is a pleasant one and particularly so because your President, in doing me the honor of asking me to speak before you, said that choice of subject was my own. Obviously the subject of sugar is the only one that would occur to a man that has been in the sugar business some 55 years but what phase of sugar and the sugar business is a question for selection.

Possibly before stating any title, I might call attention to something that always attracts my attention on every trip that I make to New Orleans. A gas station on the Airline Highway has a huge sign "Free Sugar with every 10 gallon Gas Purchase". That's something, isn't it: But what I want to see—and may I live long enough to see it—is a sign in front of a grocery store "Free gas with every purchase of 10 lb. of sugar!" Ridiculous, isn't it: But why? Only because we see in the idea the queer contradiction that it is always sugar that is given away, not the other way around.

The outstanding feature of sugar and the whole sugar industry in my experience is the peculiar tendency for contradictions and paradoxes to spring up wherever sugar is the subject. This is particularly true in connection with any of the studies of sugar as a food. On the one hand as a striking example is the statement that "sugar is the fundamental basis of all life on Earth" and on the other hand violently opposed to this the statement that "sugar is the cause of most of human ills." Certainly no greater contradiction could be found than in these two absolutely opposed ideas.

The first statement, that sugar is the fundamental basis of all life on earth, is not something said by someone in the sugar business but by one of the great botanists of the world. The idea is incontravertable, because the source of all life is the energy of the sun and it is the sun's energy, working through chloryphyl of the leaves of green plants, that combines the carbon dioxide in the atmosphere and the water in the plant sap to form the basic sugars, the so called carbohydrates. Since all plants form carbohydrate in this way and only in this way and all animal life is ultimately dependent on plant life for its food, the statement becomes a certainty that sugar, as formed by the action of sun light through the process known as photosynthesis, is the basic ingredient upon which life on earth depends.

As opposed to this we have the statement of food faddists that sugar causes tooth decay, diabetes, all sorts of imagined and real ills, and some extremists have said in print that sugar should be declared a poison and ruled out of commerce by international decree just as heroin has been.

This then brings up the peculiar contradiction of the so-called "natural sugars" versus "refined sugars." The sugar that comes on your table, strangely enough, is exactly the same chemical compound formed by the action of sunlight on the green leaves of the cane, as occurs in sugar-cane juice squeezed out by the mills. In spite of the elaborate process of clarification, boiling and crystallization in the raw house and the equally elaborate refining process, clarification, decolorization,

(Continued on next page)

and recrystallization, no change has occurred in the sugar throughout these extensive manufacturing and refining steps. The corn sugar people for years tried to call corn syrup of dextrose a "natural" sugar, although it is actually made by subjecting starch to high pressures and high temperatures under the action of hydrochloric or sulphuric acid. Some one said about the corn sugar advertisement on a candy "fortified with dextrose", that the same thing 50 years ago would have been marked "adulterated with glucose."

I remember a number of years ago at Battle Creek, the citadel of diatetic fantasies, that a young dietician asked me why I was using the cane sugar on the table instead of the gummy looking maltose (which incidentally sold for about 25 cents a pound) and when I asked her why not she said that cane sugar would not sustain life. My reply to that was that she was entirely wrong as it had always sustained my life, since it was the only business in which I had ever made any money. I gave up trying to argue with her in a comparison of cane sugar, which is exactly the same crystalline material on the table as it is grown in the original plant, and malt sugar, which is made from barley malt by an elaborate steam and acid digesting process. Like all food faddists she had no use for reason but wanted to believe what she had been told rather than what common sense dictated.

The sugar interests themselves have developed one of the most delightful paradoxes within the last few months, attacking the age-old idea that sugar and sweets make you fat. The Sugar Research Foundation has now advanced exactly the opposite thesis, namely that sugar taken before meals takes the appetite away (as every fond mother has told her children) and is now suggesting that the best way to reduce is to keep the blood sugar at a certain height by taking sugar before meals, which in turn takes away the feeling of hunger caused by a shortage of sugar in the blood. A few more paradoxes like that one is exactly what the sugar industry needs.

While on the subject of contradictions it might be well to emphasize that one of th great misunderstandings about sugar is in regard to the increase in the per capita consumption. The amount of sugar is increasing per capita, therefore according to this reasoning, people are eating more sugar. Actually it is not hard to prove that *more people are eating sugar*, not *people are eating more sugar*. Dr. Stroud Jordan a number of years ago in one of his talks on sugar as a food showed a close correlation between the increase in the consumption of sugar in the United States and the increase in means of transportation. He had a curve showing the miles of railroad and miles of roads at various eras in the United States and against this the per capita consumption of sugar in the country. The reason that the amount of sugar per person has gone from about 10 pounds to about 100 pounds is not because each person is eating ten times more sugar than he used to but because sugar has been made more available by railroad, trucking, and other means of transportation, so that many more times as many people are eating sugar today than did so 100 years ago. It was Jordan's belief that people in the big cities, near sugar refineries and sugar factories in the early days of the republic ate just as much sugar as this same group of individuals eat today. It is the farmers, scattered villagers, and people in the remote areas that formerly ate home-made sweets like molasses or honey, or did without sweets, until transportation facilities made it possible for them to obtain and eat not only sugar as such but canned fruits and the like carrying large volumes of sugar. Another one of Jordan's contentions was that it was ridicu-

lous for the food extremists to argue against refined sugar because of its purity unless it could be shown that anyone lived off of refined sugar alone. As he pointed out, the purpose of sugar in the diet is to make fruits, cereals, coffee and tea and dozens of other foods taste better, and therefore we eat more of these necessary foods because of the taste quality of the sugar in them, at the same time gaining needed energy from the sugar itself.

Certainly the wryest of all contradictions from the sugar man's viewpoint is the use of the word "sugar" in slang as synonymous with the "money"—"sugar-daddy" and "heavy-sugar" as synonyms of great wealth, never originated in the mind of any sugar men. We have some satisfaction too in knowing that in spite of the inroads that the coal-tar substitute sweeteners have made with their advertising schemes, they have certainly never driven sugar out of the minds of the general public as something that is very valuable and precious. "Sugar-plum", "sugar-pie" and "sugar-baby" still continue to be used as terms of endearment. So far as I know no one has ever called his girl "my little saccharin tablet" or "sucharyl."

The whole subject of the economics of sugar is a mass of contradictions. In spite of the vast oversupply which keeps prices down during peace-time, sugar is the first staple to be rationed during a war economy and the last to be taken off rationing after peace returns. Although it is the cheapest food product on earth, it is the first one that the house-wife checks prices on. My wife says that the typical conversation between a housewife and the grocer is to give a long list of miscellaneous orders irrespective of what each costs ending up with, "and what's the price of sugar?"

A recent experience along this line has sharply indicated the change in the price of everything except sugar. At our refinery we are replacing some boilers installed between 1909 and 1914, and a comparison of the price of the new boiler to those installed 40 years ago shows that the total cost of all the boilers then was $45,000 with the cost today to replace one-third of the old boilers $137,000, i.e. the cost of boilers in the 40 year period has gone up exactly ten times. What about sugar during the same period? After lopping off the 53¢ processing tax which is paid on every 100 lbs. of sugar produced, the price of sugar today is about 10% higher than it was in 1914 when the last of the old boilers was put in. What could be fairer? Boilers go up 1000% in price and sugar goes up 10%.

The arguments of the food faddist regarding the consumption of sugar and the effect it has on the human race could certainly be turned sharply against them if sugar propagandist were as unscrupulous as some of the opposition. In 1900 the total world production of sugar was about 10 million tons. Today it is close to 40 million tons. It is a very simple matter to show that the most civilized nations are those that consume the most sugar and in which the consumption has increased on this four-fold ratio. During that same 50 years the life expectancy of all people in the United States has increased nearly 25 years and therefore, following the type of propaganda that food extremists would use against sugar, we can say that the increased use of sugar has been the immediate cause of the decrease in the death rate. Such an argument would be misleading and entirely unsupportable but not any more so than the arguments of the dangers of refined sugar as opposed to the great value of the so-called "natural" sugars. As I said before, but it is worth repeating, the increase in the consumption of sugar is not that people are eating more sugar but that more people are eating sugar. Not only

(Continued on next page)

Aerial View Of Valentine Pulp And Paper Company, Lockport, La.

have the transportation facilities increased the possibility of shipping sugar to outlying districts but the cheapness and convenience of canned fruits, candies, soft drinks, cookies and other sugar-bearing materials, besides sugar itself, have been brought to the rural areas and small towns thereby increasing the per capita consumption. I still like that argument about the consumption of sugar and the effect on the death rate, specious as it may be. It would unquestionably be easy to prove that the increase in the consumption of sugar has been much greater in rural and sparsely settled areas than it has been in the cities and it would be equally possible to show that the greatest improvement in health conditions has also occurred in those same areas. What caused the reduction in the death rate in the country? The easiest answer would be to disregard completely sanitation, hygiene, standards of living and better medical care and to say: "They use more sugar than they used to. They live longer than they used to. Therefore the more sugar, the longer you live."

Lets finish this up with a poem, published appropriately enough in the "Sugar Molecule", Monthly Journal of the Sugar Research Foundation.

Methuselah ate what he found on his plate,
And never, as people do now,
Did he note the amount of the calory count;
He ate it because it was chow.

He cheerfully chewed each species of food,
Unmindful of troubles or fears
Least his health might be hurt
By some fancy dessert;
And he lived over nine hundred years.

WORLD CENTRIFUGAL SUGAR PRODUCTION UP ABOUT 600,000 TONS

(From Foreign Agriculture Circular of the U. S. D. A.)

World production of centrifugal cane and beet sugar for 1955-56 is forecast at 41.1 million short tons, raw value, or nearly 0.6 million tons more than the final estimate of 40.5 million tons for the 1954-55 crop. This will be the largest crop on record. The 1955-56 forecast for USSR is 500 thousand tons more than the estimate for 1954-55, which accounts for most of the world increase.

World non-centrifugal sugar is expected to be about 6.7 million short tons, tel quel. This is slightly less than the estimate of 6.8 million tons for 1954-55.

World production of centrifugal cane sugar for 1955-56 is forecast at about 25.2 million short tons, raw value, compared to 24.9 million tons during 1954-55. All areas except Spain and Oceania are expected to increase their production. Oceania will in all probability decrease production to 1.4 million tons, from the 1954-55 output of 1.6 million tons.

The 1955-56 forecast of beet sugar is almost 16.0 million tons, 2 percent above the 1954-55 estimate of 15.6 million tons. Production is expected to decline in North America and Western Europe but to increase in all other areas.

North and Central America: Production of centrifugal cane and beet sugar is expected to total 13.0 million short tons, raw value, during the 1955-56 crop season. This is slightly less than the 1954-55 estimate of 13.1 million tons. Some countries, notably the United States and Canada, are expected to decrease production while others may increase. Cuba will probably produce about 5 million tons, or about the same as in the preceding year. Cuba has been very successful in selling sugar on the open market during the current year, and has been able to reduce the stockpile. This may be an incentive to increase production during 1956. The Dominican Republic, the United States, cane areas, and Mexico are among those that are expected to increase production. The storm which caused loss of life and property in Barbados did little damage to the sugar crop, and the 1955-56 forecast is 180 thousand tons.

Western Europe: The forecast for Western Europe of 7.1 million tons is 187 thousand tons less than the final estimate of 1954-55 but 339 thousand tons greater than the preliminary estimate made in November 1954.

Eastern Europe: Centrifugal sugar produced in Eastern Europe is forecast at 3.4 million tons. This is the second highest crop of recent years for this area. In 1953-54, 3.6 million tons were produced. Due to favorable weather all Eastern European countries are expected to increase their production in 1955-56.

The USSR has also enjoyed favorable beet-growing weather this year. The production for 1955-56 is expected to be 3 million tons—a 20 percent increase over the 1954-55 production estimate of 2.5 million tons.

Asia: The 1955-56 centrifugal sugar production is forecast at 5.8 million tons. This estimate was topped only in 1939 when the production reached a high of 6.1 million tons. India, Pakistan, Indonesia, China, and Turkey have been increasing production during the last two years. The Republic of the Philippines restricted the crop this season and partly offset the increase in other countries.

South America: The forecast for South America during 1955-66 is 5.0 million tons, which is only slightly higher than the 1954-55 estimate of 4,963 thousand tons.

(Continued on next page)

Hundredweights of Sugar, Raw Value, Commercially Recoverable Per Ton of Sugar Cane for Percentages of Sucrose in Normal Juice from 8.0% to 18.0%, Inclusive

% Sucrose Normal Juice	Cwt. Sugar Per Ton Cane	% Sucrose Normal Juice	Cwt. Sugar Per Ton Cane	% Sucrose Normal Juice	Cwt. Sugar Per Ton Cane
8.0	.893	11.5	1.507	15.0	2.065
8.1	.910	11.6	1.522	15.1	2.081
8.2	.926	11.7	1.538	15.2	2.098
8.3	.943	11.8	1.553	15.3	2.114
8.4	.959	11.9	1.569	15.4	2.131
8.5	.976	12.0	1.584	15.5	2.147
8.6	.993	12.1	1.600	15.6	2.164
8.7	1.009	12.2	1.616	15.7	2.180
8.8	1.026	12.3	1.631	15.8	2.197
8.9	1.042	12.4	1.647	15.9	2.213
9.0	1.059	12.5	1.663	16.0	2.230
9.1	1.078	12.6	1.679	16.1	2.247
9.2	1.098	12.7	1.695	16.2	2.263
9.3	1.117	12.8	1.710	16.3	2.280
9.4	1.137	12.9	1.726	16.4	2.297
9.5	1.156	13.0	1.742	16.5	2.313
9.6	1.176	13.1	1.758	16.6	2.330
9.7	1.195	13.2	1.774	16.7	2.347
9.8	1.215	13.3	1.790	16.8	2.364
9.9	1.234	13.4	1.806	16.9	2.380
10.0	1.254	13.5	1.822	17.0	2.397
10.1	1.272	13.6	1.838	17.1	2.414
10.2	1.289	13.7	1.854	17.2	2.431
10.3	1.307	13.8	1.870	17.3	2.448
10.4	1.324	13.9	1.886	17.4	2.465
10.5	1.342	14.0	1.902	17.5	2.481
10.6	1.360	14.1	1.918	17.6	2.498
10.7	1.377	14.2	1.935	17.7	2.515
10.8	1.395	14.3	1.951	17.8	2.532
10.9	1.412	14.4	1.967	17.9	2.549
11.0	1.430	14.5	1.983	18.0	2.566
11.1	1.445	14.6	2.000		
11.2	1.461	14.7	2.016		
11.3	1.476	14.8	2.032		
11.4	1.492	14.9	2.049		

Earlier in the year Brazil had been expected to produce 2.6 million tons. Bolivia, Colombia, Ecuador, Peru, and Venezuela are increasing production.

Africa: This continent increased its production from 2.2 million tons in 1954-55 to 2.3 million tons in 1955-56. The largest increase is expected in the Union of South Africa. Mauritius is also expected to increase production by 13 thousand tons.

Oceania: The forecast for Oceania during 1955-56 is 1.4 million tons in comparison with the final estimate of 1.6 million tons for 1954-55. The Australian crop is expected to be somewhat below the 1954-55 crop. There is an abundance of cane but the market is unable to absorb continued unrestricted production of sugar. Therefore, the crop is expected to be limited to 1,265 to 1,280 thousand tons.

UP FRONT

(Continued from page 83)

Advisory Committee Meets

The Louisiana Sugar Industry has been honored during the past few days by a visit of the Sugar Research and Marketing Advisory Committee which held its annual meeting in our State December 12th through December 15th.

The Sugar Research and Marketing Advisory Committee is a distinguished group of gentlemen who work on the problems of the domestic sugar industry. They are: J. M. Brown, Chief Chemist, Revere Sugar Refinery; Harry Clark, Director, National Beet Growers Federation; R. H. Cottrell, Vice President, The Amalgamated Sugar Company; Gordon Lyons, Executive Manager, California Beet Growers Association, Ltd.; Slator M. Miller, Asst. Vice President, Hawaiian Sugar Planters' Association; J. J. Munson, President, The South Coast Corporation; William C. Prewitt, Vice President, Agriculture, United States Sugar Corporation; Perc A. Reeve, Director of Research, Farmers & Manufacturers Beet Sugar Assn.; Dudley Smith, Vice President, Association of Sugar Producers of Puerto Rico and Dr. R. H. Walker, Director, Agricultural Experiment Station, Utah State Agricultural College.

Our own Marcel J. Voorhies is a former member of the Committee and it is a pleasure for us to be able to report that he was well enough to be up and around renewing old acquaintances with his friends from other sugar areas and the U. S. D. A.

—o—

BAGASSE

(Continued from page 86)

ing firms, though reasonably favorable, was at the lowest level since 1947, indicating stronger competition.

2. The possibilities for expanding the use of bagasse in insulation board do not seem particularly promising at this time, though bagasse is equally as suitable for insulation board manufacture as competing raw materials. The published financial statements of insulation board producers using bagasse and competing materials indicate that users of bagasse do not appear to have any noticeable cost-price advantage. Capacity increases in bagasse board plants since 1938 have not matched those in plants using other raw materials.

From 1948 to 1953, the production of insulation board remained unchanged. From 1950 to 1953 the industry operated at about three-quarters of capacity and net profit-net worth ratios were at modest levels compared to the immediate postwar period.

3. Since technicians in the field indicate that hardboard of competitive quality may be made from bagasse and the hardboard consumption trend is quite favorable, the use of bagasse by present or possible hardboard producers deserves consideration. The production of hardboard in 1953 was more than double that in 1945 and almost triple that of 1941. It is reasonable to assume that bagasse hardboard could compete pricewise with wood as does bagasse insulation board since the principal methods of manufacture of the two types of board are essentially the same.

Hardboard plant capacity has almost doubled since 1950. The expanding capacity plus the comparatively modest net profit-net worth ratios in recent years assure continued active competition in the industry.

4. The possibility of using domestic bagasse as a furfural raw material does not appear promising at this time. Furfural production from bagasse is economically feasible at only a few locations in this hemisphere, where conditions for low-cost operations are especially favorable. Bagasse has no advantage as a raw material with respect to the quality of furfural produced. The furfural market expanded rapidly from 1942 to 1953, but the expansion rate slowed somewhat in 1954.

5. The poultry litter market is expected to continue its present expansion rate for some years, and bagasse litter should share in this expansion. From 1935 to 1952 litter usage increased from about 8 million to about 13.3 million tons. Most bagasse litter plant managers interviewed believe that they could use a larger producing unit if they had more adequate facilities for storing litter between sugar harvest seasons to service the poultry industry's year-round needs. Bagasse is a good quality litter, high in cleanness, absorbency, and freedom from dust, though with some tendency to mat. In 1952 bagasse litter cost about $17 a ton to produce and was successfully competing in price with other commercial litters.

6. The commercial mulch market, while apparently growing rather rapidly, does not present an outlet in which bagasse is likely to find significant increases in sales. Peat, a material superior to bagasse for mulching, is in plentiful supply commercially at competitive prices.

Editor's Note: For further information we suggest you write to the U. S. Department of Agriculture for their Marketing Research Report No. 95 the title of which is "Possibilities For Expanding The Market For Sugarcane Bagasse".

———o———

IN WASHINGTON

(Continued from page 85)

will send a special message to Congress in January on the farm situation and will outline the Administration's farm program in his State of the Union message.

It looks like the Democrats are about to counter-march on their proposal for high rigid price supports. The Senate Committee on Agriculture made a whirlwind tour of the country last fall and its members returned to Washington with the idea that price supports should be based on quality rather than quantity. Louisiana's Senator Ellender, Chairman of the Senate Agriculture Committee, a longtime advocate of rigid 90 percent price props, has strongly indicated he will oppose such a measure next year. Senator Clinton Anderson, Democrat of New Mexico, and Senator Spessard Holland of Florida, ranking Democrats on the Committee, are expected to side with Chairman Ellender when farm legislation is considered early next session. With three top Democrats on the Committee opposing the Democratic-sponsored House-passed bill of high rigid supports, the chances are slim for quick adoption of any farm program.

One thing is certain, farm program planning for 1956 is getting top priority in Washington from both Republicans and Democrats on Capitol Hill and in the Department of Agriculture. Members of both parties are convinced of the necessity for more aggressive price-supporting measures.

———

Honorable Clifford R. Hope, Republican of Kansas, veteran of 28 years' service in the House of Representatives, and member of the Committee on Agriculture, has announced that he will retire from public office next year. He plans to practice law with his son in his home town of Garden City, Kansas.

Although frequently at odds with Republican party farm planners, "Cliff" Hope has played a major role in formulating farm legislation during the past three decades. He will be sorely missed by the nation's farmers and especially by those who raise and process sugar beets and sugarcane.

———

As the busiest year in the history of your Washington Office nears its close, we take this opportunity to wish you A Very Happy Holiday Season.

———o———

IN THE FIELD

(Continued form page 84)

early as the St. Martinville area. The cane in this area has been materially damaged. It is hoped that cool weather will continue so that

the cane will not deteriorate rapidly.

Because of early freezes, low sucrose, and purity, the crop will not be as large as was expected. In spite of these facts the 1955 crop can still be called a good one.

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Research findings show how raising your blood sugar level helps keep your appetite–and weight–under control

This is one of a series of advertisements of Sugar Information Incorporated designed to counteract some of the false propaganda being utilized by anti-sugar groups.

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In This Issue

Up Front With The League 99
The Sugar Purchase—Marketing Allotment Hearing—Manager Wanted—Government Crop Report—D. C. Palfrey Dies

In The Field With Lloyd L. Lauden 100
Little Things Add Up

In Washington With Joe Ferris 101

Sugar Quotas Totalling 8,350,000 Tons Announced For 1956 102

Sugar 1955 103

Chemical And Plant-Breeding Research On Cane And Beets Urged By Sugar Committee 104

Sugar Market Statistics Through December 23, 1955 105

U. S. D. A. Allots 1956 Mainland Cane Sugar Quota 106

Weekly Average Prices 107

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in the interests of the Domestic Sugar Cane Industry

THE
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Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by

A. W. DYKERS

The Over-Quota Purchase

We have been informed by Mr. R. H. Chadwick, the very able young man who has represented the Louisiana sugar mills in the over-quota sugar purchase program, that all negotiations with the Government regarding the purchase have been completed and that contracts have been sent to every Louisiana sugar mill by the Commodity Credit Corporation.

By the time this report appears in print the mills will probably have signed all the contracts and the purchase program will be a reality.

The total amount of Louisiana sugar that the purchase covers is 58,522 tons, raw value.

The Contract calls for the sugar to be paid for f.o.b. rail cars at New Orleans at a price "determined pursuant to paragraph (b) (ii) of Sugar Determination 874.8" which means that the price will be the 1955-56 season's average price.

The sugar may be shipped either in bulk or in 250 pound bags. A deduction of 0.09 cents per pound will be made in the price on all bulk shipments.

The Commodity Credit Corporation has agreed to make every effort to accept delivery of the sugar as soon as possible, *"but not later than September 1, 1956"*.

This September first 1956 deadline date is probably the worse feature of the Contract because it means that the mills will continue to incur expenses relative to storing the Government bought sugar.

The Government has agreed, however, to pay 25 cents per ton for each month or fraction thereof that the sugar is stored by the seller from January 1, 1956 through June 30, 1956 and 50 cents per ton for each month or fraction thereof that the sugar is stored by the seller after June 30, 1956. Unfortunately, this payment will cover only part of the storage costs.

While there have been many headaches in connection with the Government purchase, the program is serving a good purpose by relieving the Louisiana sugar industry of nearly 59,000 tons of over-quota sugars.

Marketing Allotment Hearing

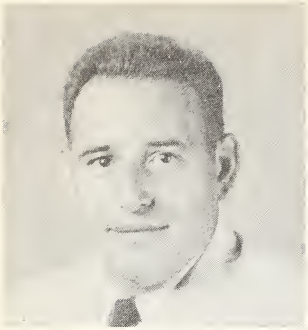
On page 106 of this issue we are printing the preliminary marketing allotments that have been assigned to the Louisiana and Florida sugar mills for the year 1956. These allotments were arrived at by giving each mill 80% of its final 1955 marketing allotment.

The Sugar Division will hold a public hearing in New Orleans January 19th to obtain data for a formula to be used in fixing 1956 final allotments, and the calculating machines are humming again! The hearing will be held in the auditorium of the International House beginning at 9:30 Ante Meridiem.

Manager Wanted

Mr. Ovide LaCour advises us that he is looking for a manager to take charge of his farming operations at Bachelor, La. Mr. LaCour has 250 acres of sugarcane, 171 acres of cotton, 700 beef cattle and a planta-

(Continued on page 107)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Little Things Add Up

In an effort to improve yields per acre, sugar cane farmers in recent years have used certain single farming practices that in themselves would not have greatly improved yields but, when added to other good farming practices, the end results have been very profitable.

An example of this is the emphasis now placed on the ends of rows and ditch bank rows. It is now standard practice on many farms to pay particular attention to planting of the ends of row, to cover the seed on the ends with a hand shovel, to give particular care to the ends at cultivating time, and to make sure that fertilizer is placed on that part of the field. At harvest time, because the mechanical harvester either breaks or fails to cut the ends properly, many farms are now hand cutting the first several feet of row. Ditch bank rows are now being cultivated better. Improved equipment plus more care in cultivation have made ditch bank rows look very similar to other rows in the field. The end result of these practices is a uniform block of cane. Not only does this look good, but there is profit in it.

Farms with high yields per acre usually watch the small factors of production as well as the larger factors, and usually the small factros add up to the one most important factor, good farming practices.

Even though great strides have been made on many farms to produce a maximum amount of cane per acre, as high as 38 tons on large acreage, there are many more who are able to produce only 18, 20, or 22 tons per acre. It is granted that vast differences in soils exist between farms and this can account for some differences in yield. It is difficult, however, to give credit to soil differences alone for a 15 ton difference in yield per acre.

The beginning of harvest does not mean that good farming practices should come to a stop. These practices should continue until the last load of cane is taken to the mill. Many growers have learned that the delivery of clean, well topped, fresh cane is a good practice to follow. Experiments have proved this beyond doubt.

Each year the Louisiana sugar industry is visited by field or factory personnel from other cane growing countries of the world. In general, the visitors are impressed by the industry's mechanization. In particular, visitors marvel at the amount of cane one harvester or one mechanical loader handles in one day. In a very diplomatic way the same visitors are critical of the industry's ground loss; that cane which is not scrapped and is left in the field and that cane which is dropped on the headlands and roads leading to the mill. Farmers in the industry usually scrap cane in the field when it is economical to do so. Many have given up headland and road scrapping because the cane picked up on headlands and roads has been rolled over and crushed. These pieces also contain large amounts of soil. Many have decided that hauling this dirty bagasse-like

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

For the past few days activities in sugar circles here have been practically nil, thank goodness. As usual however, the year-end requires various determinations for the domestic areas.

Secretary Benson's initial estimate of sugar consumption for 1956 was received by the industry without excitement. His figure of 8,350,000 short tons was anticipated by the trade. Consequently since the Secretary's announcement, the market has remained in a state of suspended animation.

Other year-end detreminations of interest are the preliminary marketing quotas for the domestic areas. These preliminary allotments as usual are based on 80% of the current year's quota. Final allotments will depend upon testimony submitted at hearings to be held early next year. In the case of the Mainland Cane area the hearing will be held in New Orleans on January 19, 1956.

Local sugar quotas for Hawaii and Puerto Rico were announced and hearings in five cities on wages and prices for the 1956 crop of sugar beets will begin January 4, 1956 in Greeley, Colorado and will conclude January 13th in Detroit, Michigan. According to the announcement of the hearing issued by the Department of Agriculture the series of hearings will be constituted as one hearing, and testimony at each of the places will constitute a part of the same record.

In a recent conversation with Senator Russell Long, the Chairman of the Senate Finance Committee, Senator Harry Byrd of Virginia said that he plans to have a meeting of the committee on January 5, 1956 and that the proposed amendments to the Sugar Act which have been pending in the committee since the final days of the last session will be one of the first items to be presented for committee action.

The first shipments of over-quota sugar under the government's purchase program were made from Florida December 23rd by the United States Sugar Corporation and Okeelanta Sugar Refinery. A cargo (10,000 tons) is scheduled to leave Savannah for Vietnam not later than January 31, 1956.

Other cargos will be scheduled soon and Louisiana Processors can expect to receive shipping instructions in the very near future.

Here's to a Happy, Prosperous 1956!

---

material to the mill does not pay off.

Some attention could be given to headland and road losses but the exact amount of cane dropped in this manner is not easily determined.

Following the drying up after a rain, hard ruts shake wagons more than when the roads are muddy and more cane is therefore lost on roads which have deep ruts. A considerable amount of cane is dropped over any long haul. Several things can be done to minimize this loss.

(Continued on page 107)

SUGAR QUOTAS TOTALING 8,350,000 TONS ANNOUNCED FOR 1956

Sugar Quotas for 1956 totaling 8,350,000 short tons, raw value, were announced on December 16th by Secretary of Agriculture Ezra Taft Benson. This figure compares with initial quotas totaling 8,200,000 tons and final quotas totaling 8,400,000 tons for 1955. (Sugar quotas govern the supply of new sugar from all sources, foreign and domestic, available for marketing in the continental United States.)

Sugar quotas for individual areas and countries for 1956 are as follows:

Area or country*	Short tons, raw value
Domestic beet	1,800,000
Mainland cane	500,000
Hawaii	1,052,000
Puerto Rico	1,080,00
Virgin Islands	12,000
Republic of the Philippines	980,000
Cuba	2,808,960
Other Countries	117,040
Total	8,350,000

Other countries	Short tons, raw value
Dominican Republic	29,064
El Salvador	4,355
Haiti	2,813
Mexico	12,051
Nicaragua	8,237
Peru	54,668
Unspecified countries	5,852
Total	117,040

The Secretary's determination was based on the following "Statement of Bases and Considerations":

Section 201 of the Sugar Act of 1948, as amended, provides that in determining the quantity (total quota) of sugar needed to meet the requirements of consumers in the continental United States consideration must be given to the distribution of sugar in the twelve months ended October 31 prior to the year to which the requirements apply, any surplus or deficiency in inventories of sugar, changes in consumption because of changes in population and demand conditions, and the relationship between wholesale prices for refined sugar and the Consumers' Price Index.

Distribution of sugar by refiners, importers, and processors during the 12-month period ended October 31, 1955, amounted to 8,500,000 tons. It appears that consumption of sugar during this 12-month period was somewhat less than distribution.

Invisible Inventories (held by wholesalers, retailers, and consumers) appear to have risen and to have been higher on October 31 than they were a year earlier, since distribution in the four months immediately preceding, during which refined sugar prices were strengthening in many parts of the country, exceeded that for the corresponding period a year earlier by about 270,000 tons.

Inventories held by refiners and importers on October 31, 1955, amounted to 503,000 tons, or substantially the same as a year earlier. However, additional supplies available to refiners and importers under quotas were larger so that total supplies held by, or available to, refiners and importers on October 31, 1955, amounted to 1,306,000 tons or approximately 70,000 tons more than a year ago.

Supplies of beet sugar remaining to be marketed under the quota during the last two months of 1955 were 136,000 tons smaller than for the same period of 1954. After deducting constructive deliveries made to fill quotas in 1954, the total supplies of beet and cane sugar available under quotas for distribution during the last two months of the year are as large in 1955 as they were in 1954. Both visible and invisible inventories fluctuate considerably depending upon price trends and other conditions that temporarily affect demand. Although it is impossible to anticipate the demand for inventories a year in advance, present inventories are be-

(Continued on page 105)

SUGAR 1955

by John B. Levert, President Louisiana Sugar Exchange, Inc.

To begin this report we would like to call attention to the fact that a 1955 survey places the capital value of the properties comprising the Louisiana Sugar Industry at approximately $300,000,000.

The year 1955 has been a momentous one for the Louisiana Sugar Industry. Sugar legislation that recognizes the inherent right of the Louisiana cane farmer to share in the growth of his country was passed by the House of Representatives this year and we are confident that final action by Congress, making this right the law of the land, will take place during the early part of 1956.

By way of explanation, despite the fact that less than 30% of the sugar consumed in the United States is produced in the continental United States, all sugar that is marketed here is under a quota system. Each producing area, including the beet and cane sugar producing areas of the United States, are allowed to sell a given quantity of sugar in this country. The law that imposes this control is known as the Sugar Act.

Due to the increase in population, sugar consumption in the United States has increased from 7,200,000 tons in 1948 to 8,400,000 tons in 1955. It is estimated that the normal yearly increase in consumption is approximately 135,000 tons a year.

Sugar legislation since 1948 has favored Cuba and other foreign countries by allowing them to supply all of the increased demand for sugar in this country while the mainland cane and beet sugar producers have been held to the same quotas allotted to them in 1948.

The 1955 sugar legislation passed by the House provides that, henceforth, the increase in the consumption of sugar in this country shall be shared by the domestic and foreign producers on a 55 percent domestic sugar and 45 percent foreign sugar bases.

Cropwise the year 1955 has been a favorable one. Despite the fact that Government orders restricted our acreage another eight percent, our farmers have produced over five and a half million tons of cane worth about forty-one and a quarter million dollars ($41,250,000) at the farm level. This is a lot of money even in these days of billions and it assumes added significance to us when it is realized that the Louisiana sugar industry is concentrated in southern Louisiana well within the New Orleans trade territory.

Fifty-three sugar factories were used in 1955 to process the Louisiana cane crop into sugar and molasses. These factories have produced about 450,000 tons of sugar and approximately 40,000,000 gallons of blackstrap molasses. Most of the sugar either has been or will be refined by the seven sugar refiners in the New Orleans area. Most of the blackstrap molasses has been or will be sold for cattle feed and shipped throughout the middle western part of the United States.

Another major 1955 development was the agreement by the Government to purchase 71,500 tons of over-quota sugar from the Louisiana and Florida sugar producers. This was brought about by the same congressional action that will eventually bring about the quota relief.

In 1955 the Louisiana sugar industry continued to reap the benefits of the intensive research that has been, and is being, conducted by the Government Sugar Experiment Station at Houma, La., the Louisiana State Experiment Station at Baton Rouge, La., and the combined efforts of the industry through the American Sugar Cane League. Our production of cane per acre has increased almost as fast as the Gov-

(Continued on page 106)

CHEMICAL AND PLANT-BREEDING RESEARCH ON CANE AND BEETS URGED BY SUGAR COMMITTEE

(Issued through facilities of the U. S. Department of Agriculture)

An expanded research program to develop superior varieties of sugarcane and sugarbeets with greater resistance to disease, cold, insects, and nematodes, and more suitable for mechanized operations, is recommended by the U. S. Department of Agriculture's Sugar Research and Marketing Advisory Committee.

Meeting in New Orleans December 12-15 the committee also urged accelerated studies to complete the inventory of chemical constituents of sugarcane and sugarcane juice and their relations to processing behavior and yield. Such work, it was pointed out, is fundamental to effective production and utilization research.

In marketing research, the committee gave high priority to determining the feasibility and value of developing grades and standards for feed molasses which would indicate to the feed trade the purity and sugar and protein values of this product. Among other high priority research needs indicated by the Committee were studies on:

(1) Nematodes as a limiting factor in production of sugarbeets and sugarcane, with emphasis on improvement of preventive measures and chemical control methods.

(2) Relative losses in harvested sugarbeets caused by the metabolic activity of beet tissues and by fungi and bacteria, and development of methods to reduce or eliminate such losses.

(3) Dried molasses feed products, including consideration of the feasibility and value of regular statistical reports of the volume of trade in these products.

The committee, established under the Research and Marketing Act of 1946, meets annually. Its formal recommendations for USDA sugar research and marketing work, discussed at this year's meeting, will be submitted to the Department in the next few weeks.

The following additional lines of work were considered high on the list of needed sugar investigations by the committee at the meeting:

Production Research: Expanded research on weed control, including development and evaluation of new and existing herbicides for control of annual and perennial weeds in sugarbeets and sugarcane, and fundamental studies on weed-sugarbeet-soil relationships in preplanting, pre-emergence, and post-emergence treatments.

Utilization Research: Expand basic research and applied pilot-plant processing studies on the extraction of sugar from sugarbeets to establish optimum conditions for diffusion and provide data for the design of improved diffusion equipment. Study the purification of sugarbeet diffusion juice for maximum recovery of sugar, while investigating the processability of existing and new varieties of sugarbeets. Develop means to predict processing quality early in breeding programs.

Marketing Research: Initiate studies to determine the market potential for direct-consumption sugar produced by ion-exchange purification and the economic feasibility of wider production of this product. Study whether the ion-exchange process offers a means of lowering sugar-production costs without sacrificing quality, and whether ion-exchange sugar could help increase total sugar consumption without decreasing returns to producers.

Members of the committee attending the meeting included: Dudley Smith, vice president, Association of Sugar Producers of Puerto Rico, Washington D. C., chairman; Gordon Lyons, executive manager, California Beet Growers Association,

SUGAR MARKET STATISTICS THROUGH DEC. 23, 1955

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	5.83	6.00	5.95
QUOTA RAWS DELIVERED NEW ORLEANS	5.80	5.92	5.91
WORLD SPOT RAWS (In Cuba)	3.19	3.14	3.17

SUGAR FUTURES No. 6
(Closing Bid Prices)

	Mch.	May	July
Today	5.31	5.37	5.47
1 Month Ago	5.34	5.40	5.49
1 Year Ago	5.40	5.47	5.57

OFFSHORE RECEIPTS AT NEW ORLEANS
(Long Tons, 2,240 lbs.)

	To Date 1955	Same Date 1954
American	395,643 tons	320,106 tons
Godchaux	181,489 tons	209,721 tons
Colonial	125,160 tons	150,108 tons
Henderson	91,512 tons	70,877 tons
Southdown	24,789 tons	13,039 tons
South Coast	54,609 tons	70,852 tons
Supreme	105,651 tons	93,387 tons
Totals	978,853 tons	928,081 tons

Ltd., Stockton, Calif., vice-chairman; Harry Clark, director, National Beet Growers Federation, Greeley, Colo.; Slator M. Miller, asst. vice-president, Hawaiian Sugar Planters' Association, Washington, D. C.; J. J. Munson, president, The South Coast Corporation, Houma, La.; William C. Prewitt, vice president, United States Sugar Corporation, Clewiston, Fla.; Perc A. Reeve, director or research, Farmers & Manufacturers Beet Sugar Assn., Saginaw, Mich.; Dr. R. H. Walker, director, Agricultural Experiment Station, Logan, Utah. Marshall J. Goss of the Department's Agricultural Research Service is executive of the Committee.

—o—

QUOTAS

(Continued from page 102)

lieved to be large enough to permit some reduction, if holders so desire, by the end of 1956.

Population growth should result in an increase of approximately 150,000 tons in consumption during calendar year 1956 as compared with the 12-month period ended October 31, 1955. Changes that may occur in other demand conditions in 1956 are not likely to affect the consumption of sugar significantly.

New York wholesale prices of refined sugar were unusually stable during 1955 and are now at the same level as they were a year ago. During the first half of 1955 prices of refined cane and beet sugar in the southern and western areas of the country were low in relation to the New York basis price. By October, however, prices in such other areas had strengthened so as to restore substantially the relationship with the New York price that existed prior to late 1953. The New York wholesale price of refined sugar in 1955 averaged about 1.4 cents per pound below the level that would have been necessary to maintain the relationship between that price and the Consumers' Price Index that existed under price control in 1947.

After consideration of all the foregoing factors and recognition of the inherent uncertainties involved, it is determined that initial sugar requirements (total quotas) for the continental United States for 1956

(Continued on page 108)

U. S. D. A. ALLOTS 1956 MAINLAND CANE SUGAR QUOTAS

On December 19th the U. S. Department of Agriculture announced preliminary marketing allotments to processors of the 1956 sugar quota for the Mainland Cane Sugar Area which will be effective until an order can be issued on the basis of a public hearing to be held early in 1956.

This interim action is necessary because the quantity of sugar from the 1955 crop that will be available for marketing early in 1956 might otherwise make it possible for some allottees to market a quantity of sugar larger than their eventual allotment.

The preliminary 1956 allotments are equal to 80 percent of each processor's allotment for 1955 as established in Sugar Regulation 814.22, Amendment 1. The preliminary allotments which will be effective January 1, 1956, are as shown in the following table:

Processors	Allotments (short tons, raw value)
Albania Sugar Company	4,011
Alice C. Plantation & Refy, Inc.	4,599
Alma Plantation, Ltd.	4,495
J. Aron & Company, Inc.	8,423
Billeaud Sugar Factory	5,183
Breaux Bridge Sugar Coop., Inc.	4,587
J. M. Burguieres Co., Ltd., The	3,887
Burton-Sutton Oil Company, Inc.	4,919
Caldwell Sugars Coop., Inc.	7,571
Catherine Sugar Co., Inc.	4,487
Columbia Sugar Company	3,747
Cora-Texas Mfg. Co., Inc.	1,967
Dugas & LeBlanc, Ltd.	7,883
Duhe & Bourgeois Sugar Co., Inc.	5,719
Erath Sugar Company, Ltd.	3,171
Evan Hall Sugar Coop., Inc.	13,643
Evangeline Pepper & Food Products, Inc.	2,935
Fellsmere Sugar Producers Assoc.	6,774
Frisco Cane Company, Inc.	556
Glenwood Coop., Inc.	7,350
Godchaux Sugars, Inc.	23,091
Helvetia Sugar Coop., Inc.	4,203
Iberia Sugar Coop., Inc.	8,847
LaFourche Sugar Company	9,363
Harry L. Laws & Company, Inc.	5,955
Levert-St. John, Inc.	6,146
Loisel Sugar Company, Inc.	3,687
Louisiana State Penitentiary	2,127
Lula Factory, Inc.	7,354
Meeker Sugar Coop., Inc.	2,151
Milliken & Farwell, Inc.	8,715
Okeelanta Sugar Refinery, Inc.	9,139
M. A. Patout & Son, Ltd.	5,407
Poplar Grove Pltg. & Ref. Co., Inc.	4,019
E. G. Robichaux Company, Ltd.	3,415
St. James Sugar Coop., Inc.	8,007
St. Mary Sugar Coop., Inc.	7,262
Slack Bros., Inc.	1,943
Smedes Bros., Inc.	2,619
South Coast Corp., The	27,763
Southdown Sugars, Inc.	26,727
Sterling Sugars, Inc.	7,619
J. Supple's Sons Pltg. Co., Ltd.	3,239
United States Sugar Corp.	81,244
Valentine Sugars, Inc.	8,047
Vermilion Sugar Company, Inc.	1,312
Vida Sugars, Inc.	2,831
A. Wilbert's Sons Lbr. & Sh. Co.	5,623
Young's Industries, Inc.	3,919
Louisiana State University	80
Any other person	00
Subtotal	400,000
Unallotted	100,000
Total	500,000

SUGAR 1955

(Continued from page 103)

ernment has curtailed our acreage. This constantly improving efficiency has resulted in a production of sugar in each of the past three years that has exceeded the 500,000 tons fixed quota for Louisiana and Florida designated in the Sugar Act. This excess in production has created the over-quota problem that the Government is helping to adjust through the 71,500 ton purchase of over-quota sugar.

We expect our share of the consumption increase granted to us in the new sugar legislation to eventually do away with over-quota production and the necessity for further acreage reduction. The final passage of the new sugar legislation will place the Louisiana sugar industry on a much sounder basis than heretofore with the resulting benefits to our entire community.

We feel that the Louisiana sugar industry can look forward to the years ahead with confidence. Our sugarcane scientists are among the best in the World and we will, most

surely, continue to reap the benefits of their research. Our right to share in the growth of our Country has been recognized and we can now move forward as our Country prospers.

———o———

IN THE FIELD

(Continued from page 101)

Extensions to the tail gates can be installed to wagons making long hauls. The tractor can be stopped as it leaves the field to again tighten slings. Usually some settling of cane takes place after the first hundred yards of haul. It appears that since effort, time, and money have been spent to produce a maximum amount of cane, every effort should then be made to get every stalk, within reason, to the mill.

———o———

UP FRONT

(Continued from page 99)

tion store. Contact Mr. LaCour if you are interested in applying for this position.

Government Crop Report

The Crop Reporting Board of the USDA has issued the following report about the 1955 sugarcane crop:

"Production of sugarcane for making sugar from the 1955 continental crop is estimated at 6,930,000 tons, about 1 percent above last year's production of 6,883,000 tons and 13 percent above average. The Louisiana crop is estimated at 5,758,000 tons compared with 5,625,000 tons produced for this purpose last year. Production in Florida is estimated at 1,172,000 tons compared with 1,258,000 tons last year. Acreage harvested for sugar was below last year in both States in conformity with the acreage control program. Sugar production from cane ground and to be ground is expected to total 580,000 tons, raw value, compared with 610,000 tons produced last year.

The crop made excellent progress in Louisiana during the growing season with ample moisture and very light insect and disease damage. Harvesting started in mid-October but was delayed for a while to permit further maturing of cane. The estimated record yield of 24.5 tons per acre for Louisiana is 1.7 tons above the 22.8 ton yield last year.

In Florida, where the crop is grown under controlled water conditions, an average yield of 33.0 tons per acre is estimated for 1955 compared with last year's yield of 32.6 tons per acre."

D. C. Palfrey Dies

It is with sincere regret that we record the death of Mr. Donaldson Caffery Palfrey who passed away on December 23rd after a brief illness. Mr. Palfrey was a life long resident of Franklin, La. and devoted his life to the development of the sugar industry. At the time of his death he was General Manager of the Alice C Plantation & Refinery of Franklin.

———o———

Weekly Average Prices

The weekly average prices issued by the Louisiana Sugar Exchange since the start of the 1955-56 pricing period have been as follows:

Week ending October 13, 1955
Raws 6.00, Blackstrap 9.75
Week ending October 20, 1955
Raws 5.99, Blackstrap 9.75
Week ending October 27, 1955
Raws 5.96, Blackstrap 9.75
Week ending November 3, 1955
Raws 5.95, Blackstrap 9.845
Week ending November 10, 1955
Raws 5.86, Blackstrap 10.00
Week ending November 17, 1955
Raws 5.85, Blackstrap 10.00
Week ending November 24, 1955
Raws 5.91, Blackstrap 10.00
Week ending December 1, 1955
Raws 5.94, Blackstrap 10.00
Week ending December 8, 1955
Raws 5.81, Blackstrap 10.15
Week ending December 15, 1955
Raws 5.77, Blackstrap 10.25
Week ending December 22, 1955
Raws 5.79, Blackstrap 10.40
Season's Average through December 22, 1955
Raws 5.894, Blackstrap 9.99

QUOTAS

(Continued from page 105)

of 8,350,000 short tons, raw value, as established herein will provide a supply that is expected to result in prices that are not excessive to consumers and that will maintain and protect the welfare of the domestic sugar industry.

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THE SUGAR BULLETIN

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In This Issue

Up Front With The League 112
Repair The Gyroscope, Please!—Crazy Weather—Sugar Legislation—Farm Forum Jan. 26 and 27.

In The Field With Lloyd L. Lauden 113
Discuss Your Crop With Others

In Washington With Joe Ferris 114

Sugar Cane Weed and Grass Control Survey 115

Breaux Joins L.S.U. Pathology Department Staff 117

Weekly Average Prices 118

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in the interests of the Domestic Sugar Cane Industry

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Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

Repair The Gyroscope, Please!

The price of raw sugar in New Orleans on October 6th, 1955, the day before the start of the Louisiana Pricing Period was 6.02 cents a pound and the price of raw sugar in New Orleans today, three months later, is 5.80 which, according to our not too rapid calculations, is 22 points on the down-side since the start of the 1955-56 Louisiana pricing season.

We respectfully call these statistics to the attention of the folks in Washington who take great pride in the "stability" of the sugar market. The Old Mule's gyroscope has slipped a cog, gentlemen, and we will appreciate some rapid repairs before the poor old animal spins his top.

Crazy Weather

We noticed in the paper today (January 11th) that it was colder in Florida yesterday than it was in Boston, which is really something to write about in January.

Further inquiries have brought out the information that the cane crop in our sister state has been subjected to temperatures in the middle twenties in the Clewiston Fellsmere and Okeelanta areas, but that the section around Canal Point, which is east of Lake Okeechobee, escaped the freezing weather.

Just how much actual loss the Florida industry will sustain as a result of the freakest weather is not known at this time but the fact that the canes have been "killed to the ground" on the south, west, and north sides of the Lake is not very encouraging. The big Clewiston mill of the United States Sugar Corporation usually does not complete its grinding operations until April and last year Okeelanta finished on February 4th. Fellsmere finished grinding last season on March 5th.

Which reminds us that we were exceptionally lucky here in Louisiana this season to survive the really cold weather of November and December without serious losses. Some areas in St. Martin and Lafayette Parishes were forced to abandon frozen canes but all other sections seem to have come through with very little damage. Gilbert Durbin, our genial General Manager estimates the total Louisiana sugar production this season at 455,000 tons, raw value.

Sugar Legislation

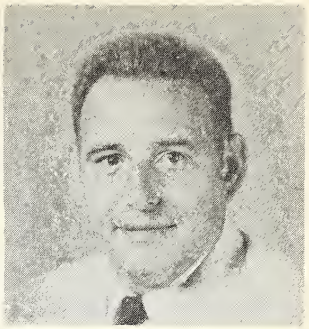
Senator Harry F. Byrd of Virginia, who is Chairman of the Senate Finance Committee, has announced that his Committee will begin hearings January 16th on sugar legislation. F. A. Graugnard, Jr., President of the American Sugar Cane League, and Wallace C. Kemper, Chairman of the League's Legislative Committee will attend the Hearing along with the Manager of your Washington Office, Josiah Ferris.

It will be recalled that sugar legislation passed the House during the waning moments of the last meeting of the present Congress and it will not be necessary, therefore, for the House Agricultural Committee to again hold hearings on this

(Continued on page 118)

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden



Discuss Your Crop With Others

Now that the harvest is over, cane farmers will have an opportunity to compare cane yields with their friends and neighbors. The discussions and comparisons of means, methods, and techniques of producing a cane crop, as well as the results obtained, make excellent conversation and are very healthy for the Louisiana sugar industry.

It must be remembered that many factors and operations go together to produce a crop of cane. It must also be remembered that descriptive words such as good, poor, plenty, nice, enough, small, and etc. have different meanings to different farmers.

An example of this might be illustrated something like this:

First Farmer: "I used plenty of fertilizer; and I did a nice job of controlling grass. I had good stands and did a good job of cultivating. I dusted for borers. I received enough rain; but I produced only 20 tons of cane per acre."

Second Farmer: "I did the same thing and had the same weather, but I was lucky; I made 24 tons of cane per acre."

Third Farmer: "I did about the same thing as you two, but I made a much better yield of cane per acre. I used 60 pounds of nitrogen on all plant cane, 90 pounds of nitrogen on all my stubble, and I added phosporous to that strip of sandy soil in front of my house. Mr. Calandro said that Dr. Peevy from L. S. U. said that piece of land needed phosporous. I used chemicals for Johnson grass and followed the instructions. I dusted for borers for second and third generations on the front of my place. Dusting wasn't necessary on the other half. I had an occasional two foot gap in my 1st stubble with slightly more gaps in the second stubble. It was almost impossible to find a gap in the plant cane at lay-by-time. I had rains that prevented cultivation for one week in April, one two inch rain in May, a one inch rain the 1st week in June and about three inches of rain about two weeks later. During July and August rains occurred every two or three weeks. One three inch rain in the beginning of September delayed planting operations until the latter part of the month. I stopped cultivation the 1st week in June with a clean well prepared row. The use of chlordane, at planting time last year, on those 20 acres of real heavy black land near the woods coupled with 65% of my crop in 44-101 pushed my average up from 27.2 tons to 35.3 tons of cane per acre this year. By the way, I planted some heat-treated seed this year, too."

First farmer to third farmer: "You did more than I did. I applied about 50 pounds of nitrogen per acre to my plant cane and about 65 pounds of nitrogen per acre to the stubble. I only dusted for the second generation borers and then I only dusted 2 applications.

"I used the hand hoe once and knifed-out Johnson grass once at lay-by. I didn't get any rain in June but I got three rains in April

(Continued on page 117)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Senate hearings on the Sugar Bill H. R. 7030 will begin at 10:00 a. m. January 16th. Because of the tax provisions of the Sugar Act, the hearings will be held by the Senate Committee on Finance.

Senator Harry F. Byrd, Democrat of Virginia, Chairman of the Committee has requested witnesses to confine their oral testimony to not more than ten or fifteen minutes and to file briefs on any points which cannot be covered in that length of time. He said that all interested parties would be given an opportunity to appear. To date some fourteen witnesses have filed appearance notices with the clerk of the committee. Senator Byrd said he hoped to conclude the hearings and report out a bill within a week.

Honorable True Morse, Under Secretary of Agriculture, Assistant Secretary of State, Henry Holland and Lawrence Myers, Director of the Sugar Division, U. S. Department of Agriculture will testify for the government. Frank A. Kemp, President, Great Western Sugar Company of Denver, Colorado will appear as spokesman for the United States Sugar Industry. Mr. Kemp will represent the Beet growers and processors from twenty-two states; Mainland Cane processors and growers; the Association of Sugar producers of Puerto Rico; the Hawaiian Sugar Producers Association and the Cane Refiners Association.

No serious opposition to the domestic provisions of the Bill is anticipated, although one or two witnesses, who represent certain industrial users, may speak against it. The administration and the sugar industry are in complete accord on the provisions of the Bill and a majority, forty-nine members of the Senate have gone on record as favoring prompt amendment of the Sugar Act.

The big bone of contention will be the division of that part of the dometsic sugar market (45%) which will be allotted to Cuba and other foreign sugar producing countries. Since 1947 Cuba has enjoyed 96% of the entire growth of the U. S. sugar market. Under the proposed changes in the law a part of this growth in their own market (55%) will be restored to domestic producers. The State Department has proposed that the remaining 45% be divided 60% to Cuba and 40% to other foreign countries. Mexico, Peru, Haiti and the Dominican Republic and other countries which do not like the State Department's proposed allocation will hotly contest Cuba for a greater share.

President Eisenhower, in his farm message to Congress January 9th said: "The legislation to renew the Sugar Act of 1948, as amended, should promptly be completed. The Congress is aware of the need to give producers, as well as foreign suppliers and the entire sugar industry, as much advance notice as possible in planning their operations."

Senate leaders hope to bring the Sugar Bill to the floor of the Senate at the conclusion of the debate on

(Continued on page 116)

SUGAR CANE WEED AND GRASS CONTROL SURVEY

By Denver T. Loupe, E. R. Stamper, and County Agents as listed in Table I cooperating

A recent belt-wide survey showed that 120,193 acres of cane, or 45.8 per cent of the total acreage are under a complete chemical weed and grass control program, and that 73,473 acres, or 28 per cent are under a program in which 2,4-D alone is used. This gives a total of 193,666 acres or 73.8 per cent of the sugar cane acreage on which chemical weed and grass control is being used.

These figures are from a survey conducted with the cooperation of the County Agents. The purpose was to obtain factual information on this important phase of sugar cane production. It is hoped that this survey will supply a complete picture of weed control work and point out the ways in which chemical weed and grass control work can be increased.

Table I gives the acreage by parishes. In some cases there are differences between the figures in Column 3 and those in Column 2. The figures in Column 2 are the acres harvested for sugar in 1954 and are obtained from A.S.C. records. These figures were not available at the time the survey was made and therefore the agents in some cases used the previous year's figures. Some figures as given by the agents include all acres planted to sugar cane, both harvested and that used for seed. It can also be seen that in some cases the figures were reported to the nearest hundred. Even though there is a difference, the total acres listed are about equal. Therefore, for the purpose of this survey and from a practical point of view, the figures as listed will suffice.

In answer to the question, "Do you attribute the increase or decrease in yield of cane in your parish to the use of chemicals for weed and grass control?" four agents definitely stated that use of chemicals did increase yields. Eight others gave it a partial vote, saying that even though the use of chemicals for control of weeds and grasses did help, there were also other factors that influenced the yields of sugar cane. Six agents said they did not attribute the decrease or increase in yield to use of chemicals.

Comments on the present program varied greatly. However, some of the most important points are summarized below:

In good years — that is, moist springs, when a complete program is followed, satisfactory results are obtained. In numerous instances, it was indicated that certain steps of the program were omitted, thereby making the total program ineffective.

In some instances, observations indicated that the type and size nozzles used were inadequate to give the necessary coverage. Also, in some cases where the right nozzles were used, improper care and maintenance of nozzles made them inadequate for the job at hand. Good coverage and the application of the amounts of chemicals as recommended were not attained. This brings out the fact that not only is the proper size nozzle important, but care and maintenance also become governing factors.

In some areas, where other crops were grown that are effected by 2,4-D, the complete program was not followed and results were not satisfactory.

From these comments and from practical observations, it can be said that under normal conditions a complete weed and grass control program is beneficial. This complete program includes fallow plowing and fall and spring applications of chemicals following practices

(Continued on next page)

recommended by the L. S. U. Agricultural Experiment Station. Not only will weeds and grasses be controlled, but additional advantages can be expected. By controlling grass and weeds, plant population is increased and competition with the sugar cane plant for food and water is eliminated. Better tilth of the soil is attained, making possible efficiency of fertilizers, and aiding drainage.

A complete program followed for several years will also make possible the use of a better rotation program whereby the organic matter content of the soil can be maintained. In some cases where the size and type of the operation warrant, sheep grazing and pasture rotations have been developed and satisfactory results have been obtained.

It must be understood that a weed and gass control program is only one phase of sugar cane production, as is fertilization and as is selection of varieties. Research has supplied us with a workable program. It is a complete program and should be followed as such if the grower is to get his dollars worth. Failure to follow the complete program as recommended reduces the efficiency of the total sugar production program.

TABLE I

I	II	III	IV	V
PARISH, COUNTY AGENT	ACRES HARVESTED FOR SUGAR - 1954	ACRES REPORTED BY C. A.	ACRES UNDER COMPLETE PROGRAM	ACRES UNDER 2,4-D PROGRAM
1. Ascension, Claude Songy	12,062.2	12,092	10,000	2,000*
2. Assumption, E. J. Lousteau	25,651.4	32,385	30,000	12,000*
3. Avoyelles, K. J. Ducote	1,517.2	3,500	1,000	850
4. Iberia, W. B. Williams	33,787.6	39,000	10,000	15,000
5. Iberville, Edward Burleigh	16,537.2	16,000	14,000	—
6. Lafourche, C. J. Arceneaux	23,735.7	30,000	10,000	5,000
7. Pointe Coupee, A. B. Curet	8,180.6	8,180	3,300	1,300
8. Rapides, W. L. Roark	645.1	675	68	—
9. St. Charles, A. J. Melancon, Jr.	1,369.1	2,106	650	1,200*
10. St. James, Kermit Coulon	14,599.5	18,287	12,800	1,828*
11. St. John, V. O. Calandro	12,336.1	13,239	6,000	4,000*
12. St. Landry, A. K. Smith, Jr.	121.6	600	—	50
13. St. Martin, Stanley Angelle	15,679.7	17,500	2,000	3,000
14. St. Mary, P. J. DeGravelles	29,455.2	36,000	5,000	25,000
15. Terrebonne, Richard Sonnier	29,258.0	19,036	5,000	2,000
16. Vermilion, Murphy Veillon	2,313.5	2,313	--	—
17. West Baton Rouge, H. A. Webb	11,194.8	9,500	8,400	245
18. West Feliciana, W. D. Magee	1,696.9	1,975	1,975	—
TOTALS	240,141.4	262,388	120,193	73,473
			45.8%	28%

* Note: Acreage primarily sprayed at lay-by for weed control; however in most cases it may be in addition to the complete recommendations for a grass and weed control program.

IN WASHINGTON

(Continued from page 114)

the Natural Gas Bill. That debate will begin January 16th and is expected to continue for two or three weeks.

Despite the boast of lobbyists for Cuban sugar interests that they will repeat their performance of last year and successfully delay passage of the proposed sugar legislation, House and Senate proponents of the Bill are hopeful that the Senate will pass the Bill and send it to confer-

BREAUX JOINS L. S. U. PATHOLOGY DEPARTMENT STAFF

Editor's Note—We are indebted to Lawrence George, Louisiana State Experiment Station Editor, for the following report:

The appointment of Dr. Richard D. Breaux as assistant plant pathologist to work in the sugarcane breeding program being conducted by the L.S.U. Agricultural Experiment Station was recently announced by Dr. J. N. Efferson, director of the Station.

Dr. Breaux, whose technical training has been in the field of plant breeding, has inaugurated basic genetic research studies on sugarcane in addition to performing plant breeding work in the breeding program which is under the supervision of Dr. St. John P. Chilton, head of the plant pathology department of the Station. He is working with Dr. Elias D. Paliatseas and P. H. Dunckelman, assistant plant pathologists, in the breeding program.

Reared on a sugarcane farm near Franklin, St. Mary Parish, Dr. Breaux was graduated from the Franklin High School in 1946. He was awarded the B.S. degree in general agriculture by Southwestern Louisiana Institute in 1949 and in September 1949 began graduate studies at Louisiana State University, where he was awarded the M.S. degree in agronomy in 1951. He completed requirements for his Ph.D. in the agronomy department at L.S.U. in 1953, served in the Army from October 1953 to August 1955, and joined the Experiment Station staff as assistant plant pathologist on Sept. 1, 1955.

Dr. Breaux is married to the former Laurel Watkins of Jeanerette. They have one child, a one-year-old son.

The addition of Dr. Breaux to the Experiment Station staff reflects the increased emphasis being placed by the Station on the sugar cane breeding program, which is aimed at the development of better varieties for Louisiana cane growers, Dr. Efferson pointed out.

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ence after no more than one day's consideration. How long it will take the House and Senate conferees to agree is a matter of conjecture, but wishful thinkers believe the Bill will be on President Eisenhower's desk for signature by March 1st.

———o———

IN THE FIELD

(Continued from page 113)

and one two-inch on the third of May. I didn't lay-by until two weeks after you. I broke a few canes but it didn't seem to hurt the cane any. I'm just getting started in C.P. 44-101; it looks like a good cane. I didn't get as much dirt up to the cane as I wanted to. I got the same July rains you received but no rain fell in August. I received the September rains as you did. How did Dr. Peevy know you needed phosporous and what is this stuff called chlordane?"

Second farmer to First and Third

(Continued on next page)

Weekly Average Prices

The weekly average prices issued by the Louisiana Sugar Exchange since the start of the 1955-56 pricing period have been as follows:

Week ending October 13, 1955
Raws 6.00, Blackstrap 9.75

Week ending October 20, 1955
Raws 5.99, Blackstrap 9.75

Week ending October 27, 1955
Raws 5.96, Blackstrap 9.75

Week ending November 3, 1955
Raws 5.95, Blackstrap 9.845

Week ending November 10, 1955
Raws 5.86, Blackstrap 10.00

Week ending November 17, 1955
Raws 5.85, Blackstrap 10.00

Week ending November 24, 1955
Raws 5.91, Blackstrap 10.00

Week ending December 1, 1955
Raws 5.94, Blackstrap 10.00

Week ending December 8, 1955
Raws 5.81, Blackstrap 10.15

Week ending December 15, 1955
Raws 5.77, Blackstrap 10.25

Week ending December 22, 1955
Raws 5.79, Blackstrap 10.40

Week ending December 29, 1955
Raws 5.80, Blackstrap 10.50

Week ending January 5, 1956
Raws 5.80, Blackstrap 11.00

Week ending January 12, 1956
Raws 5.81, Blackstrap 11.00

Seasons' Average through January 12, 1956

Raws 5.874, Blackstrap 10.171

———o———

IN THE FIELD

(Continued from page 117)

Farmer:

"I used 60 pounds of nitrogen on plant and 90 pounds on stubble cane. I used chemicals but I waited too long after shaving and off-barring before I sprayed. I still have some real gappy stubble of C.P. 34-120. I have about 35% of my crop in C.P. 44-101. I'm going out of 34-120. I'm planning to use 44-101 on all heavy soil next planting time and I'm going to try chlordane. I dusted for second generation borers only, but I made four applications. I wish I would have dusted for the third generation. I didn't get the rains you two received in the early part of the growing season. How can I get heat treated seed? I hear it is going to pay off. I've been told that heat-treated seed comes up in a hurry, marks the row very wide, and increases yields in the field."

It is well to point out that doing one operation well will certainly increase yields; doing two things well will further increase yields. In many cases, however, these things do not show up as an increase over a neighbor who handles the same two operations not as well. The reason for this can be explained many times by compensating errors. One farmer does two operations well. He does a good job of planting and he makes sure that he uses fertilizer recommendations. This farmer is not impressed with chemical weed and borer control. He thinks that all he has to do is make a good planting, use fertilizer recommendations, and cultivate once or twice. He makes 21 tons of cane per acre. The other farmer is not as careful about planting and doesn't use but 40 pounds of nitrogen in plant cane and 60 pounds in stubble. This farmer, nevertheless, follows weed and borer control measures to the letter. This farmer also produced 21 tons of cane per acre.

Take the good of both, combine on one farm and yield must increase.

Talk your crop over with as many people as you can, check with County Agents and others before trying something new. Remember a good job of farming many times will compensate for poor weather.

———o———

UP FRONT

(Continued from page 112)

legislation. It will be necessary, however, for the House and Senate conferees to iron out the differ-

ences, if any, between the House and the Senate versions of the new legislation and this could result in some delay in its final adoption.

The salient features of new sugar legislation proposed by the domestic sugar industry are:

1. That beginning in 1956 the domestic sugar producing areas will again share among themselves their historic 55 percent of the growth of the U. S. sugar market over a base consumption of 8,350,000 short tons.

2. That the five domestic sugar producing groups will share this 55 percent of annual U. S. sugar market growth as follows:

(a) The first 188,000 short tons --of this amount the first 165,000 short tons, 51.5 percent to the Domestic Beet Sugar Area and 48.5 percent to the Mainland Cane Sugar Area; the next 20,000 tons to Puerto Rico; and the next 3,000 tons to the Virgin Islands—and

(b) Above 188,000 short tons—to the five Domestic Sugar Producing Areas on the basis of their fixed quotas for 1955 plus the respective amounts added thereto out of the first 188,000 tons as above provided.

3. That beginning in 1956 foreign countries, exclusive of the Republic of the Philippines, will share among themselves 45 percent of the growth of the U. S. sugar market over the base consumption of 8,350,000 short tons.

4. That beginning in 1956 the quantities of direct consumption sugar which may be brought in annually from Hawaii and Puerto Rico will, as provided in the bill passed by the House, be increased in the same proportion as their respective quotas are increased by the "growth formula."

5. That deficits in any Domestic Sugar Producing Area in any year resulting from the operation of the "growth formula" will, as provided in the bill passed by the House, be prorated to the other Domestic Sugar Producing Areas on the basis of their then quotas to the extent that such domestic areas can utilize such deficits before any such deficits are prorated to foreign countries.

6. That the definitions of "raw" and "direct consumption" sugar and of sugar which is "further refined and otherwise improved in quality" will, as provided in the bill passed by the House, be revised to reflect recent technological developments.

7. That the cost-of-living formula, in Section 201 of the Act, will, as provided in the bill passed by the House, be put on the now generally accepted 1947-49 base.

8. That the law will be extended through December 31, 1962.

Farm Forum Jan. 26 and 27

Our good friend Ralph W. Brown, who is Secretary of the Agricultural Committee of the Chamber of Commerce of the New Orleans Area, and also Secretary of the Southern Farm Forum, has asked us to announce that the Ninth Annual Meeting of the Southern Farm Forum will be held in New Orleans on January 26th and 27th at the Jung Hotel.

The theme for the forum will be "Facing Economic Facts in Southern Agriculture." There will be outstanding farm leaders and agriculturists to discuss poultry, livestock, cotton, rice, sugarcane, and other farm topics.

Two panel discussions are scheduled for the Forum. The first will be on whether the farmer is getting a fair share of the consumer's dollar, which we know the answer to already, and the other is "what is the answer to declining farm income", which, believe it or not, we don't know the answer to already.

Remember the dates, January 26th and 27th. And the place, the Jung Hotel in New Orleans.

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In This Issue

Up Front With The League 124
Sugar Legislation—The Marketing Hearing—The Farm Forum—Visit Florida—Water Symposium Scheduled

In The Field With Lloyd L. Lauden 125
Research and Extension

In Washington With Joe Ferris 126

President Graugnard Discusses Sugar Problem 127

Extension Aspects of Weed and Grass Control In Sugarcane In Louisiana 128

Sugar Market Statistics Through January 25, 1956 131

Sugar Information Group 131

Weekly Average Prices 132

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THE
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UP FRONT WITH THE LEAGUE

Sugar Legislation

Sugar legislation passed another milestone on January 23rd on its way to becoming a law of the land, when the Senate Finance Committee approved amendments to the Sugar Act and turned the job of writing its report over to Senator Russell Long.

Joe Ferris covers the main points of the new legislation in his Washington report on page 126 of this issue.

After the Senate adopts the Committee report, which seems to be a pretty sure bet at this writing, a joint committee of the House and Senate will meet to iron out the differences between the legislation passed last summer by the House and legislation passed by the Senate. Just how long this will take is anybody's guess.

The Marketing Hearing

The Hearing to determine the mill marketing allotments that will be given to the individual Louisiana and Florida processors this year was conducted as per schedule in New Orleans on January 19th. The meeting was held in the auditorium of the International House and was very well attended.

The Louisiana, Florida and Government versions of the best way to divide the Mainland Cane sugar quota among the 51 Louisiana and Florida sugar mills were read into the record and Herb Folken, representing the Government, took all the information back to Washington for further study. Frequent recesses slowed the Hearing considerably but it was over by mid-afternoon despite the delays.

The Farm Forum

We had the pleasure of attending the ninth annual Southern Farm Forum held in New Orleans on January 26th and 27th and enjoyed the proceedings very much. The theme of the meeting was *"Facing Economic Facts In Southern Agriculture"*.

The Southern Farm Forum is an annual affair sponsored by the Agricultural Committee of the Chamber of Commerce of the New Orleans Area and its object is to give farming leaders an opportunity to discuss their problems with each other. F. A. Graugnard, Jr., President of the American Sugar Cane League made a talk about the Louisiana sugar industry and we are printing what he had to say beginning on page 127 of this issue.

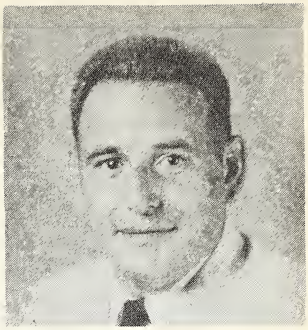
Other farming subjects discussed were *poultry,* by Fred L. Gaddis, President of the Mississippi Poultry Improvement Association; *livestock,* by Jim W. Mitchell, Secretary of the Texas Livestock and Marketing Association; and *cotton,* by Joseph H. Moss, Assistant Director of the Cotton Division of the Commodity Stabilization Division of the USDA.

We were particularly interested in a panel discussion on the answer to declining farm income. R. J. Badeaux, Director of Organization of the Louisiana Farm Bureau Federation, Clint H. Johns, County Agent from Birmingham, Alabama, N. D. Morgan, farmer and South-

(Continued on page 134)

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden



Research and Extension

Each year County Agents from the sugar cane producing parishes meet with the sugar cane scientists of the Louisiana Agricultural Experimental Station and the United States Department of Agriculture. Such a meeting was held in late January in the Agricultural Auditorium in Thibodaux.

The general purpose of the meeting was to have the scientists present results of research of the past year and have agents ask questions on the work and to make suggestions on future work. More specifically, the purpose of the meeting was to find ways and means to increase cane yields. The theme throughout the entire day's meeting was, *"How can the Louisiana cane farmers be better served by Research and the Extension Service?"*

Not too many years ago one research worker wrote in a joking way an article which discussed all the recommendations to farmers. The article presented yields of 50 tons of cane per acre that could be theoretically obtained by a farmer if all recommendations were put into practice. At the time yields of 35 to 40 tons of cane per acre were far from reached, and 50 tons was absurd. The State average for the time was about 18 or 19 tons of cane per acre. Today 24½ tons of cane per acre is the State average, and the industry's sights are set higher.

Today the same article is still interesting and amusing, but 30 to 35 tons of cane per acre are not out of reach and 50 tons of cane per acre are no longer absurd. Many Louisiana cane farmers average 30 to 35 tons of cane per acre on farms 100 acres in size to as much as 900 acres in size. A number of tracts of land on certain farms produce as much as 50 tons of cane per acre. How was this done?

Nature in 1955 was kind, but the Louisiana cane industry was not so blessed in 1953 and 1954. Very good yields also occurred in those years. The answer is on the farm. Cane farmers are taking the recommendations from Research and the Extension. These operations are being put into service to produce more cane. The recommendations are being accepted more and more each year as is evidenced by ever increasing yields.

Many farmers feel that Research and Extension are something far in the distance and many miles from the farm. Actually Research and Extension are to some extent on every farm in the cane belt. If a farmer uses store bought nitrogen fertilizer, any newly released variety, chemical weed control measures, or any method of borer control measures either chemical or biological, then that farmer has made use of the services of Research and Extension. Therefore Research and Extension are on the farm.

Many farmers think that cane experiments are all done in a laboratory and then either in pots or on very small plots. As a matter of fact, most of the experiments are done on fairly large plots and on sugar farms in almost every Parish.

(Continued on page 134)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The Senate Finance Committee on January 23rd, approved amendments extending the Sugar Act for six years, with a growth formula of 55% for domestic producers and 45% for foreign suppliers.

The formula would begin at 8,350,000 tons, the current estimate of U. S. sugar consumption for 1956.

The first 165,000 tons of the domestic share of the increase will be apportioned — 51.5% to domestic beet, and 48.5% to mainland cane producers. The next 20,000 tons to Puerto Rico and the next 3,000 tons to the Virgin Islands. Any additional increase will be apportioned on the basis of the quotas for the various domestic producing areas.

Under the Senate proposal, in 1956, Cuba would get 43.2% of the increase in consumption over 8,350,000 tons, other countries 1.8%; beginning in 1957 Cuba 33.8%, Peru 4.0%, Mexico 4.0%, Dominican Republic 2.0% and other countries 1.2%.

A few other amendments of minor importance, mainly to make easier the administration of the law, were adopted by the committee at the request of the Secretary of Agriculture.

An amendment advocated by a group of industrial users which would have eliminated the pricing formula in Section 201 of the Act, was killed in the committee.

The Committee authorized its Chairman, Senator Harry F. Byrd of Virginia to make a favorable report on the Bill after two full days of hearings, during which testimony was received from thirty witnesses. Most of the witnesses spoke in behalf of foreign countries which are vying with each other for the lion's share of the 45%.

Senate leaders hope to bring the Bill to the Senate floor for debate shortly after the final vote on the Natural Gas Bill, about February 1st.

Senator Russell Long of Louisiana forecast quick passage by the Senate. He said he was confident that the House and Senate conferees would reach prompt agreement on the 55% - 45% division of the market. The big fight in conference will be on the division of the 45% to foreign countries.

The Senatorial team of Fulbright and Douglas have given notice of their intention to oppose the legislation. Fulbright has asked the Sugar Division for the names of processors who receive conditional payments of more than $100,000, and is expected to make a vicious attack on the payment provision of the Act. Douglas will fight the excise tax, claiming it increases the cost to the consumer. Senator Lehman of New York, who is up for re-election this year, and has a large Puerto Rican vote, is expected to speak in behalf of a greater white sugar quota for the Commonwealth of Puerto Rico, and also ask that Puerto Rico share sooner in the "growth". Senator Frear of Delaware may get into the limelight by attacking the pricing formula.

(Continued on page 134)

PRESIDENT GRAUGNARD DISCUSSES SUGAR PROBLEMS

Talk by F. A. Graugnard, Jr., President of the American Sugar Cane League, before Southern Farm Forum, New Orleans, La. January 26, 1956

I have been asked to tell you something about the problems of the Louisiana sugar industry—in about ten minutes. This is quite an assignment since our industry seems at times to be the most problemed in all of agriculture, but I shall do my best not to bore you by crying too loud and too long.

To begin, our biggest problem is one that should be the easiest to solve. I refer to our burden of over-quota sugar. Despite the fact that only about half of the sugar consumed in the United States is home grown, that is, produced in Louisiana, Florida, 22 Sugar Beet States, Hawaii, Puerto Rico and the Virgin Isles, we, in Louisiana, have been ordered to reduce our cane acreage a total of 30% during the past three years in order that foreign sugars may be sold in our American markets in steadily increasing amounts. The Sugar Act of 1948, with fixed quotas for the Domestic sugar producing areas, coupled with the ability of farmers to produce more cane per acre, has made this acreage reduction mandatory.

We firmly believe that the markets in this Country belong primarily to our own citizens and it is because of this belief that I say our biggest problem should be the easiest to solve. Unfortunately, our opinion on this subject is not shared by many other interests and we have been forced to fight for our very existence during the past years.

The Sugar Act of 1948 is a law that grants each sugar producing area supplying the United States a share of the American Market. Due to the increase in population, sugar consumption in this Country has risen from 7,200,000 tons in 1948 to 8,400,000 tons in 1955, but despite this increase, Louisiana and Florida, which comprise the Mainland Cane Sugar Industry, have been kept at a fixed quota of 500,000 tons during the entire seven year period. With the exception of 176,000 tons to Puerto Rico and the Virgin Islands, all of this 1,200,000 ton increase in consumption has been given to our foreign suppliers, 98% of this increase going to Cuba. The other domestic areas are faced with problems similar to ours.

Since 1948 the Louisiana and Florida cane farmers, through the application of research, have increased yields of sugar per acre to a point where the 500,000 ton marketing quota is now pitifully inadequate. Last year at this time we were working on amendments to the Sugar Act that would allow our cane and beet farmers to share in supplying the increase in sugar consumption as our country grows and, after much bickering, we finally succeeded in getting a bill passed by the House that would grant the domestic sugare producers 55 percent of the increase in consumption, with the remaining 45 percent divided among the foreign countries supplying our market. (Where can you find a parallel, where foreign interests are so protected?) This division is a step in the right direction but it will not solve our problem of over-quota sugar and acreage restrictions for a number of years to come.

I have just returned from Washington where the Senate Finance Committee is working on its version of new sugar legislation and we expect the Senate to pass a sugar bill in the near future that more or less parallels the House Bill, all of which means that we will be a little better off this year and that we may improve our position a little bit each year thereafter. The supposition is

(Continued on page 133)

EXTENSION ASPECTS OF WEED AND GRASS CONTROL IN SUGARCANE IN LOUISIANA

Denver T. Loupe, Assistant Agronomist (Sugarcane) L. S. U. Agricultural Extension Service

Prepared for and presented at 9th Annual Meeting of Southern Weed Conference, January 16-18, 1956, New Orleans, La.

A chemical program for the control of grasses and weeds in Louisiana sugarcane has been recommended for seven years. Concerted effort by Research and Extension has been made towards increasing the acceptance of this program by the sugarcane farmers.

During this period, various tools or teaching devices have been used, some being more effective than others. Among the more successful teaching aids have been farmers and business men Field Days and Tours, Demonstration meetings, Discussion meetings, Extension-Research Tours and meetings, circular letters, visual aids, news media, published information in the Sugar Bulletin, the official bulletin of the American Sugarcane League.

A survey was made to determine the acreage of sugarcane in Louisiana treated with chemicals for the control of grass and weeds during 1955. This survey was conducted with the cooperation of the county agents in the eighteen sugarcane-producing parishes in Louisiana. The purpose was to obtain informa-

TABLE 1

Names of Parishes and County Agents cooperating in 1955 Weed and Grass Control Survey; Acres in sugarcane production; acres under complete chemical control program; and that acreage on which only 2,4-D was used.

PARISH, COUNTY	ACRES HARVESTED FOR SUGAR - 1954	ACRES REPORTED BY C. A.	ACRES UNDER COMPLETE PROGRAM	ACRES UNDER 2,4-D PROGRAM
I	II	III	IV	V
1. Ascension, Claude Songy	12,062.2	12,092	10,000	2,000*
2. Assumption, E. J. Lousteau	25,651.4	32,385	30,000	12,000*
3. Avoyelles, K. J. Ducote	1,517.2	3,500	1,000	850
4. Iberia, W. E. Williams	33,787.6	39,000	10,000	15,000
5. Iberville, Edward Burleigh	16,537.2	16,000	14,000	—
6. Lafourche, C. J. Arceneaux	23,735.7	30,000	10,000	5,000
7. Pointe Coupee, A. B. Curet	8,180.6	8,180	3,300	1,300
8. Rapides, W. L. Roark	645.1	675	68	—
9. St. Charles, A. J. Melancon, Jr.	1,369.1	2,106	650	1,200*
10. St. James, Kermit Coulon	14,599.5	18,287	12,800	1,828*
11. St. John, V. O. Calandro	12,336.1	13,239	6,000	4,000*
12. St. Landry, A. K. Smith, Jr.	121.6	600	--	50
13. St. Martin, Stanley Angelle	15,679.7	17,500	2,000	3,000
14. St. Mary, P. J. DeGravelles	29,455.2	36,000	5,000	25,000
15. Terrebonne, Richard Bonnier	29,258.0	19,036	5,000	2,000
16. Vermilion, Murphy Veillon	2,313.5	2,313	--	—
17. West Baton Rouge, H. A. Webb	11,194.8	9,500	8,400	245
18. West Feliciana, W. D. Magee	1,696.9	1,975	1,975	—
TOTAL (Acres):	240,141.4	262,388	120,193	73,473
PERCENT OF REPORTED ACRES:			45.8	28.

* Note: Acreage primarily sprayed at lay-by for weed control; however in most cases it may be in addition to the recommended grass and weed control program.

tion concerning the acceptance of this important phase of sugarcane production.

Results of this survey are shown in Table 1.[1] It shows that 120,193 acres of cane, or 45.8% of the total acreage, carry out a complete (recommendation of L.S.U. Agricultural Experiment Station) chemical grass and weed control program and that 73,473 acres, or 28% was using 2,4-D alone, or part of the recommendations. A total of 193,666 acres or 73.8% of the sugarcane acreage was using some type of chemical grass and weed control program.

Comments obtained from the agents cooperating in this survey indicated that under normal conditions a complete grass and weed control program is most beneficial in producing sugarcane. A complete program, as referred to, includes fallow plowing and fall and spring applications of chemicals following practices recommended by the L. S. U. Agricultural Experiment Station. Not only will grasses and weeds be controlled, but additional benefits can be expected. By controlling grasses and weeds, sugarcane plant population is increased and competition from the weeds are eliminated for food, water and sunlight. The eliminations of weeds and grass makes possible better cultivation, increasing the efficiency of fertilizers and aiding in drainage. In addition, by eliminating grasses and weeds, a better rotation program is possible whereby the organic matter content of the soil can be maintained.

As in all phases of chemical grass and weed control, research is continually looking for something more practical. During 1955, in furtherance of the research and educational responsibilities, trial demonstrations for controlling weeds and grass on sugarcane farms were set up. These demonstrations afforded county agents and farmers an opportunity to try a promising new chemical as a herbicide under the supervision of research workers prior to it being recommended for use. This approach not only supplied research workers with supporting data, but it also gave the agents and farmers an opportunity to work with this chemical as a herbicide, make observations, and obtain useful and pertinent data.

Upon request by the agents, 50 pounds of Dalapon for each agent was made available by the Dow Chemical Company. This material was applied on stubble cane at the suggested rate of 3 to 5 pounds per acre. Sixteen agents out of eighteen put out trial demonstrations. In some cases there were more than one demonstration in a given parish. Of these sixteen there were eight information requested, while 5 of 16 got complete information including sucrose and yields. The results of sucrose determinations of these trials are shown in Table 2.

The results in Table 2 show that even though the sucrose of the check is slightly higher than the treated demonstration plots, the trend in increase throughout the growing season is comparable.

Table 3 gives the yield in tons

(Continued on next page)

TABLE 2

The Effect of Dalapon on Sucrose of Stubble Sugarcane in Demonstrations Conducted by County Agents—1955

Treatment and Rate/Acre	St. Mary	Iberia	St. John	Assumption 1	Assumption 2	Ascension 1	Ascension 2	Iberville	Ave. All Parishes
Check	11.44	8.84	10.16	10.47	9.01	9.12	10.11	8.42	9.70
Dalapon 4# (Early Oct.)	10.62	9.02	8.36	7.86	7.61	9.71	10.32	9.04	9.07
Check	13.75	13.42	12.65	10.31	13.79	10.49	10.30	10.92	11.95
Dalapon 4# (Late Nov.)	13.12	12.68	11.64	8.90	13.44	10.76	10.27	10.03	11.36

per acre and pounds of 96° recoverable sugar per acre. Averages of five parishes show an increase of 1.5 tons per acre of sugarcane in the Dalapon treated plots compared to the check. There was an increase of 90 pounds per acre of sugar in the Dalapon plots as compared to the check.

These demonstrations, as well as tours, meetings, and other activities, are intended to bring about a more unified approach to the grass and weed control problems in sugarcane in Louisiana. As an example, results and observations prior to, and during 1955, revealed that mechanical application of chemicals as herbicides was in some cases cause of inefficient grass and weed control. An attempt to eliminate this problem will be made by emphasizing mechanical application and care of spray equipment in 1956. This will be accomplished with the assistance of the Agricultural Engineering personnel of the Extension Service along with the present cooperation of the research workers doing grass and weed control work with the Louisiana Agricultural Experiment Station.

It might be concluded that in doing chemical grass and weed control work, as with all other aspects of sugarcane work in Louisiana, the entire program might be compared to an efficient commercial chemical company. The chemical company's organization is such that it includes Research, Development and Sales. In the production of sugarcane in Louisiana, we have Research, L.S.U. Agricultural Experiment Station, U. S. Department of Agriculture and that information which comes from commercial chemical companies' research organizations. The Extension Specialist handles the development phase. He is responsible to take research finding, develop it, and make it available to the County Agents. The County Agent along with his assistants, associates and leading farmers are our sales force. They are on the farm, selling the sugarcane grower recommendations and assisting him with the practical applications of these recommendations. We believe this to be a sound organizational setup requiring 100% effort of the cooperating units for efficient operation of the things we have to use at this time. We know we cannot afford to wait until 100% efficiency is attained by research alone. Our Extension organization in the sugarcane-producing area as well as other farm areas of Louisiana aims to keep abreast with all research and give to the farmers the sound, economical and feasible application of the developments of that research.

[1] Data in Tables 1, 2, and 3 were compiled with the assistance of E. R. Stamper, Assistant Plant Pathologist, L.S.U. Agricultural Experiment Station and the County Agents as listed in Table 1.

TABLE 3

The Effect of Dalapon on Yield and Sugar Per Acre on Stubble Cane in Demonstrations Conducted by County Agents—1955

Treatment and Rate/Acre	St. Mary	St. Charles	Assumption	Iberville	St. James	Average all Parishes
			Yield in Tons Per Acre			
Check	23.72	23.91	21.95	24.00	24.40	23.5
Dalapon 4#	28.46	25.00	21.76	26.00	23.70	25.0
			96° Sugar Per Acre			
Check	4417	3751	4098	3410	3565	3848
Dalapon 4#	5015	3923	3945	3271	3536	3938

SUGAR MARKET STATISTICS THROUGH JAN. 25, 1956

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	5.90	5.83	6.00
QUOTA RAWS DELIVERED NEW ORLEANS	5.86	5.80	5.95
WORLD SPOT RAWS (In Cuba)	3.28	3.23	3.18

SUGAR FUTURES No. 6
(Closing Bid Prices)

	Mch.	May	July
Today	5.37	5.42	5.52
1 Month Ago	5.33	5.39	5.48
1 Year Ago	5.50	5.55	5.63

OFFSHORE RECEIPTS AT NEW ORLEANS
(Long Tons, 2,240 lbs.)

	To Date 1956	Same Date 1955
American	18,100 tons	13,282 tons
Godchaux	12,638 tons	12,167 tons
Colonial	18,389 tons	13,455 tons
Henderson	2,626 tons	2,733 tons
Southdown	None	None
South Coast	1,331 tons	None
Supreme	3,832 tons	3,352 tons
Totals	56,916 tons	44,989 tons

SUGAR INFORMATION GROUP

(From Amsterdam)

In Holland, the Institution "Sugar" has taken the initiative in founding a "Sugar Information Group", composed of biochemists, nutritionists, and other scientific workers in the sugar and glucose manufacturing and using industries.

The programme embraces the study and encouragement of scientific inquiry on the importance of sugar, glucose and other refined carbohydrates in the nutrition of man and animals, as well as the dissemination of information on the subject. The motive for the setting up of the Group was the continuing campaign waged in certain quarters to bring about a reduced consumption of sugar, in which certain arguments — for example the view that high consumption of sugar is the cause of dental caries—are not always used justifiably. It is common also for the results of nutritional research, as far as sugar is concerned, to be interpreted a little too freely. The Sugar Information Group will base its activities solely on the results of research, with no sacrifice of truth to industrial or political interests.

Organizations abroad which are interested are invited to communicate with the secretariat with a view to exchange of ideas and information. The secretariat is in charge of Dr. C. Nieman, c/o C.I.D.I., 42 Henri Polaklean, Amsterdam, Holland.

———o———

The objectionable odor and raw flavor of onion is reduced when a dash of sugar is added to the cooking water.

* * *

The sugar created in the leaves of plants is the starting material for the starch in potatoes, the cellulose and lignin of wood, the protein of wheat—even the aroma of flowers and the opium of a poppy.

Members of the USDA Sugar Research and Marketing Advisory Committee met recently in New Orleans, La., to confer on research needs of the sugar industry. Pictured during a pause in the sessions are, left to right: William C. Prewitt, vice president, Agriculture, United States Sugar Corp., Clewiston, Fla.; Slator M. Miller, assistant vice president, Hawaiian Sugar Planters' Association, Washington, D. C.; Harry Clark, director, National Beet Growers Federation, Greeley, Colo.; Omer W. Herrmann, deputy administrator, Agricultural Marketing Service, USDA, Washington, D. C.; Perc A. Reeve, director of research, Farmers and Manufacturers Beet Sugar Association, Saginaw, Mich.; Charles B. Broeg, USDA, Washington, D. C.; Marshall Goss, executive secretary, Sugar Research and Marketing Advisory Committee, USDA, Agricultural Research Service, USDA, Washington, D. C.; Dudley Smith, vice president, Association of Sugar Producers of Puerto Rico, Washington, D. C.; C. H. Fisher, Chief, Southern Utilization Research Branch, ARS, USDA; R. H. Walker, director, Agricultural Experiment Station, Utah State Agricultural College, Logan, Utah; Gordon Lyons, executive manager, California Beet Growers Association, Ltd., Stockton, Calif.; and J. J. Munson, president, The South Coast Corp., Houma, La. The meeting was held at the Southern Regional Research Laboratory, headquarters for sugar research in the Southern Utilization Research Branch, ARS, USDA.

Weekly Average Prices

The weekly average prices issued by the Louisiana Sugar Exchange since the start of the 1955-56 pricing period have been as follows:

Week ending October 13, 1955
Raws 6.00, Blackstrap 9.75

Week ending October 20, 1955
Raws 5.99, Blackstrap 9.75

Week ending October 27, 1955
Raws 5.96, Blackstrap 9.75

Week ending November 3, 1955
Raws 5.95, Blackstrap 9.845

Week ending November 10, 1955
Raws 5.86, Blackstrap 10.00

Week ending November 17, 1955
Raws 5.85, Blackstrap 10.00

Week ending November 24, 1955
Raws 5.91, Blackstrap 10.00

Week ending December 1, 1955
Raws 5.94, Blackstrap 10.00

Week ending December 8, 1955
Raws 5.81, Blackstrap 10.15

Week ending December 15, 1955
Raws 5.77, Blackstrap 10.25

Week ending December 22, 1955
Raws 5.79, Blackstrap 10.40

Week ending December 29, 1955
Raws 5.80, Blackstrap 10.50
Week ending January 5, 1956
Raws 5.80, Blackstrap 11.00
Week ending January 12, 1956
Raws 5.81, Blackstrap 11.00
Week ending January 19, 1956
Raws 5.86, Blackstrap 11.20
Week ending January 26, 1956
Raws 5.87, Blackstrap 12.00
Season's Average through January 26, 1956
Raws 5.873, Blackstrap 10.35

—o—

PROBLEMS

(Continued from page 127)

that by 1962, if sugar consumption increases as expected, the Mainland Cane Sugar quota should be about 635,000 tons. However, if our yields per acre keep increasing, we will have to continue under acreage restrictions through and beyond 1962 despite the help we will receive from this legislation. I am pleased that last Monday the Senate Finance Committee reported the proposed legislation favorably and we may expect early passage in the Senate. We are still concerned about what will happen in the conference committee meeting of the House and Senate.

Sugar has long been a "political football". It is amazing how the slightest increase in the price of sugar is blown up out of all proportions by those people who oppose the domestic sugar industry. Fear of this reaction has caused the administrators of the Sugar Act to hold the price of sugar down to almost ruinous levels during the past two years. Raw sugar is available in New Orleans today at $5.86 a hundred pounds which is 46 cents less than sugar sold for under Government price controls in 1947.

The price of everything that the sugar farmer must buy, if he is to remain in business, has greatly increased since 1947, and many small cane farmers have been forced out of the cane growing business. Our industry is, of course, not alone in this predicament, as every farmer is feeling the squeeze of lower prices and rising costs, but the fact that we have so much company in our misery does not minimize our suffering. The irony of our plight is that the Government knows how and has the machinery to, but refuses to take the necessary steps to raise the price of sugar.

As every farmer knows, the only way to offset the devasting effect of low prices is to increase production per acre. Our farmers have done this so well that they are producing as much cane on 246,000 acres today as they produced on 300,000 acres in 1952. We have enjoyed the wholehearted co-operation of the research experts of both the U. S. Department of Agriculture and the Louisiana State Experiment Station to attain this greatly increased efficiency and we are, of course, very grateful to them for their fine co-operation.

Here, however, we are caught between the devil and the deep blue sea. Everytime we produce more per acre we add to our surplus, which is exactly the position that all other farmers are in at the present time. There we have lots of company but again the pain remains.

Looking into the future, I would like to say, however, that in spite of our present trials and tribulations, we in the Louisiana Sugar industry have a feeling that the long time outlook for our industry is not as bleak as past and the present conditions would indicate. When the new sugar legislation is passed we will at least be allowed to share in the growth of our Country which is a definite change for the better. We also have our scientists, who will continue their efforts to show us how to produce two units where one grew before.

A few weeks ago Mr. John Levert, President of the Louisiana Sugar Exchange, expressed the opinion that the men of the Houma and

L.S.U. sugar experiment stations were among the best scientists in the world and I heartedly join with him in this commendation. We confidently expect these specialists, along with those who are working to find new uses for sugar and its by-products, and the nation wide sugar advertising program, to eventually lead us out of the wilderness. In the meantime we will continue with everlasting gratitude to do the best we can with the things we have.

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IN THE FIELD

(Continued from page 125)

County Agents are always willing to show farmers the Research work being done in the Parish.

The Research Staffs and the Extension Service play a vital part in the profits made on the farm and it is good to remember that Mr. County Agent is both a good friend and an excellent adviser.

———o———

IN WASHINGTON

(Continued from page 126)

Senate leaders have scheduled one day only for the debate on the Bill and amendments. Both sides agree that the Bill will pass by an overwhelming majority.

———o———

UP FRONT

(Continued from page 124)

west Agronomist of the American Potash Institute, and H. L. Wingate, President of the Georgia Farm Bureau Federation took part in this discussion.

The highlight of the meeting, from our point of view, was the address by H. C. Sanders, Director of the Louisiana Agricultural Extension Service. Mr. Sanders was the speaker at the closing luncheon on the 27th and his subject was "Agriculture and You". This was a treat we will long remember.

Visit Florida

Gilbert J. Durbin, Lloyd L. Lauden, Stephen C. Munson, Elliott Jones, and Horace Nelson left New Orleans on January 30th to visit the Canal Point, Florida, USDA Experiment Station and to study cane conditions in the Florida fields.

These inspections trip to Florida that are arranged each year by Mr. Munson, as the Chairman of the Contact Committee of the American Sugar Cane League, are paying big dividends. Mr. Lauden will probably tell you all about this one in his column when he gets back.

Water Symposium Scheduled

Mr. Frank T. Carroll, Jr., Acting Assistant Director of the Louisiana Engineering Experiment Station, has asked us to make the following announcement:

The Fifth Annual Water Symposium will be held on Tuesday and Wednesday, February 21 and 22, 1956 in Pleasant Hall on the Louisiana State University Campus.

Registration will be from 10:00 to 12:00 on Tuesday morning, February 21 in Pleasant Hall. The Symposium will start Tuesday afternoon at 1:00 P. M.

The speakers will include Mr. R. A. Canham, National Canners Assn., Washington, D.C.; Joseph E. Wheeler, Louisiana Sugar Producers Waste Control Council, Department of Chemical Engineering, Louisiana State University; E. W. Luce, National Council for Stream Improvement, Department of Chemical Engineering, Louisiana State University; Mr. J. L. Love, Superintendent, Water and Sewage Department, Lafayette, Louisiana; Mr. Max Lea, The Ethyl Corporation, Baton Rouge, Louisiana; Mr. W. F. Brondyke, E. I. Dupont, Orange, Texas and others.

The banquet will be held on Tuesday night, February 21, at 7:00 P. M. in Hatcher Hall.

The speaker will be Dr. A. P.

Black, Department of Chemistry, University of Florida, Gainesville, Florida.

The Registration fee will be $12.00. This includes a ticket to the banquet.

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This is one of a series of advertisements of Sugar Information Incorporated designed to counteract some of the false propaganda being utilized by anti-sugar groups.

Mrs. Grace Camero...
University Station
Baton Rouge, La.

THE SUGAR BULLETIN

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In This Issue

Up Front With The League 140
Sugar Prices—A Cuban Point of View—Senate Passes Sugar Bill

In The Field With Lloyd L. Lauden 141
Visit To The Canal Point Station

In Washington With Joe Ferris 142

Dr. Upps Heads Louisiana Experiment Station 143

Frank A. Kemp Speaks For The Domestic Sugar Industry 144

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Lloyd L. Lauden, Agronomist and Field Representative

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Walter Godchaux, Jr., New Orleans, La.
Wallace C. Kemper, New Orleans, La.
John B. Levert, New Orleans, La.
Earl G. Luke, Franklin, La.
E. W. McNeil, Cinclare, La.
J. J. Munson, Houma, La.
Charles C. Savoie, Belle Rose, La.
James H. Thibaut, Donaldsonville, La.
Ivan M. Wilbert, Plaquemine, La.
Horace Wilkinson III, Port Allen, La.
M. V. Yarbrough, Youngsville, La.

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Stephen C. Munson, Jeanerette, La.
David W. Pipes, Jr., Houma, La.

We stand for the encouragement of Home Industries as against Foreign Competition

FUNK'S G-740 MADE MANY FRIENDS IN THE SUGAR BELT IN 1956

G-740 produced high yields of top quality grain. G-740 stands well and is an excellent corn for harvesting both mechanically and by hand. Funk G-740's standability and large ears make it less expensive to harvest than any other corn. Farmers like the large dent type ears.

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FUNK'S G HYBRID

Seeds are available at practically all seed stores.

UP FRONT WITH THE LEAGUE

by

A. W. DYKERS

Sugar Prices

The Old Mule is getting weaker and weaker which is strictly a bad situation for him to be in.

We suppose you have noticed that the drivers of our sugar market character are always willing to let the Old Mule work out his own salvation when the going gets tough. The law of supply and demand becomes a sacred trust which must not be tampered with when the price of sugar is falling but for some unaccountable reason it loses its sacredness when the market is rising.

In this connection we quote the following paragraph of a letter from Mr. Lawrence Myers, Head of the Sugar Division, written on January 26th to Mr. F. Evans Farwell, President of Milliken & Farwell, Inc.

"If the requirements determination is initially set below the level of sugar requirements, as it has been in recent years, it must be raised sometime during the year, otherwise the market for sugar would be curtailed. Even though there is hardly ever a generally agreed upon right time to put the increase into effect, I am confident that you and other producers prefer that it be done during periods of market strength rather than weakness."

The writer believes that about all the low initial consumption requirements have accomplished during recent years has been to provide Mr. Myers with a club to hold over the market. The records indicate that the trade almost completely ignores the low initial estimate during the early part of the year when there is plenty of sugar available and the market is weak, and the records also indicate that the quota increases announced during the summer months, when there is still plenty of sugar and the market is strong, have effectively checked advancing prices. Mr. Myers has repeatedly stated that quota increases are not made with the idea of indicating the Administration's price objectives but the trade thinks differently.

The writer, therefore, respectfully suggests that the best time to increase quotas is when the supply of sugar is actually running low.

Everybody knows, of course, that the Administration is not going to let the Country run out of sugar. To do so would be a major blunder and political suicide. This does not mean, however, that the Administration should not adjust quotas to provide a "tight supply situation" where this is necessary to influence prices.

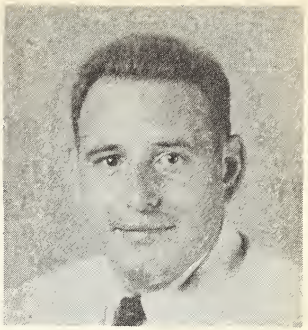
If it is considered good policy to start the year with a consumption estimate that is admittedly low, (and many people do) then the question of the best time to increase quotas is of prime importance. We feel that waiting until the sugar is needed before making increases will help to eliminate the "Sword of Democles" aspect of the present situation.

We hasten to add that the thoughts expressed by the writer are not necessarily the thoughts of the management, staff, officers or members of the American Sugar Cane League.

(Continued on page 148)

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden



Visit to the Canal Point Station

In early February a Louisiana delegation composed of Messrs. Stephen C. Munson, Elliott Jones, Horace Nelson, Gilbert Durbin, and the writer visited the Canal Point, Florida, Cane Breeding Station. The capital letters C. P. prefixing commercial varieties like C. P. 44-101 grown in the Louisiana fields means the cane was bred at the Canal Point, Florida, Station.

Mr. Bascom Belcher, Superintendent of the Station, Mr. Carl Grassl, Plant Breeder, and Dr. Edwin Todd, Plant Pathologist, took the group through the fields to inspect their work.

A great part of Dr. Todd's work is concerned with basic studies on the Stunting Disease. His studies include transmission of the disease, by equipment or tools, insects, and animals. Of particular interest in this line is the discovery of one variety that shows no symptoms of the disease although it is able to transmit the disease to other varieties. Dr. Todd uses the term "Typhoid Mary" or "Carrier" for this variety that does not show evidence of the disease but is able to infect other varieties. Dr. Todd is also studying the effect of radioactive materials on seed pieces. The purpose of the use of radioactive material is to induce mutations that will show resistance to the Stunting Disease. If a promising mutation is found it will be turned over to Mr. Grassl for use in the cane breeding program.

Mr. Belcher showed the group the new greenhouse recently erected on the Station. This house will be used to make certain crosses which have been difficult to make on the outside. The League recently made appropriations for the purchase of controlled heating equipment for this greenhouse. The group was also shown the world collection of canes. This collection contains all the available known canes of the world.

Mr. Grassl's primary work is the operation of the cane breeding program at the Station. The group was shown various techniques used to produce true sugar cane seed. An interesting phase of this work is the effect temperature has on making of certain crosses. At a low temperature one variety will act as a female and will not produce pollen. At a higher temperature this same variety will produce pollen and can be used as a male parent. Therefore controlled temperature houses are useful tools in the cane breeding program. Through the use of many techniques Mr. Grassl was successful in producing over 300 crosses as of the first of February. There is still hopes of several more being produced.

A modified system of day length light control was tried at Canal Point this year to induce artificial flowering in sugarcane. The system employed the use of artificial lighting as part of the light exposure. It is believed that the increased heat created by the artificial lighting promoted vegetative growth and actually prevented flowering. This system will be modified for the next

(Continued on page 149)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The Sugar Bill passed the Senate at about 5:20 p. m. February 8th. After two days' heated debate, the Bill was passed so quickly and quietly by voice vote that very few, if any, observers realized what had happened.

The Senate promptly appointed conferees with instructions to request a conference thereon with the House of Representatives and to insist upon the Senate Amendments. The presiding officer of the Senate, Mr. Barkley of Kentucky appointed Senators Byrd of Virginia, George of Georgia, Kerr of Oklahoma, (Democrats) and Martin of Pennsylvania and Bennett of Utah, (Republicans). The Speaker of the House at this writing, has not appointed conferees but in all probability they will be Representatives Cooley of North Carolina, Poage of Texas, Grant of Alabama, (Democrats); Hope of Kansas and Andresen of Minnesota (Republicans). There is a possibility that Republican, Representative Hill of Colorado may serve in place of Andresen.

The Bill passed the Senate exactly as it was reported by the Senate Finance Committee. The main points of difference between the Senate and House are as follows:

The House Bill divides the "growth" share of the market equally (50-50) between domestic and foreign producers, while the Senate Bill gives domestic producers 55% and foreign suppliers 45%.

The House Bill provides a four-year extension of the Sugar Act, and the Senate six years.

The House and Senate Bills differ considerably in their division of the 45% foreign share of the growth. The House provides a much larger share for the Dominican Republic, Mexico and Peru than did the Senate. The Senate Bill provides a larger share for Cuba and a smaller share for Mexico and other full duty countries.

What the conferees finally agreed upon is of course unknown but most observers believe the 55-45 Senate division of the "growth" will prevail. They believe that the conferees probably will reconcile the differences between the House and Senate division of the 45% by agreeing to the Administration's proposal of 60% of the 45% to Cuba and the remainder to full duty countries on the same historic basis that quotas have been allotted to them in the past. The only record vote was on such an amendment offered by Senator Capehart (Republican) of Indiana on behalf of the Administration. The amendment was defeated by a vote of 57 to 30.

Prior to the crushing defeat of the Capehart amendment, several Senators, including Anderson of New Mexico and Fulbright of Arkansas threatened a fillibuster which could have prevented a final action on the Bill prior to the time fixed for adjournment. In fact the fillibuster actually was started and

(Continued on page 149)

DOCTOR UPP HEADS LOUISIANA EXPERIMENT STATION

The new director of the Louisiana State University Agricultural Experiment Station beginning next July 1, will be Dr. Charles W. Upp, widely known in the state through his 28 years as a teacher, researcher and administrator in the LSU College of Agriculture.

Dr. Upp will succeed Dr. J. Norman Efferson, who will become the new Dean of the College of Agriculture upon the retirement of Dean J. G. Lee, Jr., on June 30. His appointment as head of the Experiment Station was approved by the University Board of Supervisors at its meeting on February 4.

Dr. Upp has been at LSU since 1928 and for 27 years was in charge of poultry work at the University. In 1955 he was appointed Director of Resident Instruction in the College of Agriculture. He will continue in that post until he takes over as Experiment Station director.

"Dr. Upp has shown marked ability in organizing and directing both the teaching and research work of the poultry department. His wide experience in research work in general admirably fits him to carry on all phases of the work of the Agricultural Experiment Station," said Dean Lee. He has authored and coauthored some 100 articles and has been a leader in national poultry research.

A native of Missouri, Dr. Upp was graduated from Oklahoma A. & M. in 1922 and in the same year became an instructor in poultry at Oklahoma. He did graduate work while employed as an instructor, was promoted to assistant professor in 1925 and was awarded the Master's degree in 1926. In March 1928 he resigned his position at A. & M. to become a field man for the Ralston Purina Company, and in September 1928 joined the LSU staff as associate professor of poultry and associate poultry husbandman of the Experiment Station. Further graduate study was done at Iowa State College while on leave in 1930-31, and he was awarded the Ph.D by Iowa State in 1934. Dr. Upp attained the rank of full professor at LSU in 1936 and was named head of the Poultry Industry Department when it was established as a separate department in 1948, serving in that post until his appointment as Director of Resident Instruction in the College of Agriculture in 1955.

Recognized as one of the nation's authorities in the field of poultry breeding, Dr. Upp served in 1946-47 as president of the Poultry Science Association, the top organization of professional and scientific workers in poultry science in the United States and Canada. He was also a member of the Board of Directors of the Association in 1932-34 and in 1947-49, was second vice-president of the organization in 1941-43 and first vice-president in 1943-46. He has served as chairman of the poultry section of the Association of Southern Agricultural Workers and has been a member of the Board of Directors of the Louisiana Poultry Improvement Association since its organization in 1935.

While on sabbatic leave from LSU in August 1953 to February 1954 Dr. Upp visited many of the leading agricultural colleges in the United States to study their organizations and functions.

Dr. Upp is married to the former Faye Wilson of Tulsa, Okla., a graduate in home economics from Oklahoma A. & M. They have three sons, Charles Wilson, a resident surgeon at Charity Hospital in New Orleans; Loy, a chemical engineer in Houston, Texas; and James, a resident doctor in pediatrics at Charity Hospital in New Orleans.

FRANK A. KEMP SPEAKS FOR THE DOMESTIC SUGAR INDUSTRY

Before the Senate Finance Committee on Revision of the Sugar Act of 1948; as Amended.

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

My name is Frank A. Kemp. My home is in Denver. For over twenty years I have been President and General Manager of one of the beet sugar companies. I am also Chairman of the Executive Committee of the industry-wide organization of the growers and processors of sugar beets in the United States.

I appear as a witness in support of the Committee Print of Senator Bennett's proposed Amendment to the Sugar Act at the request and on behalf of all five of the domestic sugar producing and refining groups: (1) the sugar beet growers and processors in twenty-two states from Michigan and Ohio on the East to the Pacific Coast; (2) the sugar cane growers and processors of Louisiana and Florida and their constituent organizations; (3) the Hawaiian Sugar Planters' Association, through which the interests and concerns of the planters and mills of the Hawaiian Islands are voiced; (4) the Association of Sugar Producers of the fertile island of Puerto Rico; and, (5) the United States Cane Sugar Refiners' Association, comprising the great majority of the refiners of cane sugar in the United States, with refineries in eight coastal states from Massachusetts to Texas and California. I have sought to compress my statement and shall insert for the record, but will not stop to read, a complete list of the organizations for which I speak.

These interests are keenly competitive. That they are united in support of the proposed Amendment to present legislation, that they have agreed that their support may be voiced by a single witness, evidences the determination of the domestic sugar industry to accept necessary compromises and sacrifices and to unite upon legislation governing sugar that is in the best interests of the Nation. I should like to stress the fact that there is widespread harmony in the entire domestic sugar industry on the proposed bill. The testimony of officials from the Departments of Agriculture and State who have preceded me shows that the Executive Branch of the Government also endorses in its entirety the proposed legislation. This hearing will establish that that large field of harmony and agreement is broadened by the approval and support of other interests.

Sugar legislation is an old acquaintance of the Congress and of this Committee. The important principles of the present law were enacted in 1934. On nine different occasions since that year the law with respect to sugar has been reviewed, amended or extended. Congress has repeatedly reconsidered the subject. The long record of the law and the repeated examination of its subject matter show the familiarity of Congress with the problems of the commodity and furnish uncontrovertible evidence that the law has worked well, has protected the interests of consumers and of the industry and at the same time has promoted the foreign commerce of the Nation.

From the very beginning, sugar legislation has been written under the guiding principle that the interest of consumers was of great importance. That is the way it should have been. The industry depends for its existence on consumers. It understands fully the need for continually better and improved service and standards.

I shall take time briefly to point to some of the real benefits of our sugar system. Since 1934, the sugar

law has provided for the sharing of the American market by both domestic and foreign suppliers, insuring the benefits of domestic production and at the same time providing a large volume of foreign trade. To enforce the market quotas prescribed and to achieve other objectives of the legislation, the law provides a series of strict controls supported and enforced by a tax-and-payment system which over the years has benefited the Treasury to the extent of many millions of dollars without itself adding to the price of sugar in the market because of concurrent and continued reductions that have been made in the once substantial tariff against sugar imports. For the benefit of field workers, the law goes so far as to vest in a Government Department what amounts to the right to prescribe the level of fair field wages on sugar farms. It has made available to the people of this country an ample and secure supply of sugar at modest prices. Measured in terms of the relatively small increase that has taken place in the price of sugar compared to the increase in the price of other things, the level of sugar prices in this country has been and is very modest indeed. Tested in terms of consumer purchasing power, by the time that it takes an average workman to earn money enough to buy a pound of sugar, the American sugar price is lower than in any other major country in the world.

Recent analysis by the Purchasing Department of my own company shows that compared with the 1947 indexed average price of the commodities that we buy in the manufacture of sugar, the 1955 cost was up on the average 66 percent. Added to the increase in our material costs of 66 percent, our labor costs since 1947 have increased 76 percent. Yet our manufacturer's basis price for sugar, which was $8.10 per hundred pounds in January of 1947, is now $8.30, an increase of only a little over 2 percent.

Secretary Benson recently pointed out that the spread between what the farmer receives for his products and the price paid by the housewife has increased 83 percent since 1945. I am not able to make a comparison for the identical period, but it is the fact that the spread between the farmer's returns for sugar beets and cane and the price paid by the housewife for sugar has increased less than 12 percent since 1947, most of which is represented by increases in freight and other items not retained in the sugar trade.

If there be anyone with the temerity to compare the small increase in sugar prices with the higher costs of just about everything else we buy and use, he should first take his own actual sugar cost and compare it, as I have done, with the increase in the cost to him of other things, including wages, and in the increase in the price of his own end product.

The production and refining of sugar have profound influence upon the economy of the country. In the report for the year 1955 of the President of the Hawaiian Sugar Planters' Association, it is said:

> "Sugar has long been Hawaii's greatest source of commercial income . . . sugar provides Hawaii with more than one-third of all the money available to purchase imported goods . . . every sugar dollar has an effect on the standard of living of Hawaii's people."

Of the entire return from the products of Puerto Rico more than 50 percent is represented by the proceeds of its sugar crop.

The cultivation of cane in Louisiana and Florida is of great importance to those states and of equal importance to their growing areas as cane cultivation is anywhere else on earth. The sugar beet crop and the farming and feeding system of which it is the hub is of tremendous benefit to the wide area in which it is grown. The Reclamation Service has shown that on many of its proj-

(Continued on next page)

ects the beet crop, on a relatively small planted acreage, accounts for a large percentage of total farm returns.

The employment afforded by the great United States refineries is highly important. The market which they provide for the natural raw sugars of many lands and many producers, is of simply inestimable value to the latter. And in the variety of refined products that it provides to the consumer it furnishes a great service.

As one of its major effects, sugar legislation provides for the sharing of the American market. A division is made not only between the various domestic segments of the industry but between the domestic segment as a whole and foreign suppliers. It is natural that each supplying area would like to have the greatest possible share of the market and that they would contest for what they regard as their just proportion. For all of the domestic groups to agree on a single program, therefore, has required a great deal of compromise. No one group under this proposed program will get all that that group might ideally desire.

Time does not stand still. It was to be expected that as the years went by there would be evidence of need for some change in the law. The proposed statute makes certain changes in definitions that time has shown to be advisable, and in certain other respects, such as in providing for possible consideration of hardships in the making of acreage and marketing allotments within the total set, takes account of suggested change and improvement. In all of the discussions over the last year or more, there has been very little said about any of these proposed changes except the one which again, as was the case prior to 1947, permits the domestic industry to share in the future growth and increase of the sugar market in this country. In the beginnnig, the domestic interests urged even greater participation in the market increase than is accorded in the draft under consideration. Nevertheless, the industry, after long and thoughtful consideration, approved of the draft's concept as to the share of the market increase to the domestic areas. It is my understanding that no sugar interest, foreign or domestic, now opposes the provisions for domestic sharing of the market increase as expressed in the draft.

The law also changes the division of the share of the increase in this market accorded to foreign nations. On this point, the provisions are those recommended by the Executive Branch of the United States Government upon which devolves the duty of interpreting our relationships with foreign nations. The domestic industry defers on this point to the Executive Branch of the Government and accepts the judgment of the latter as to the market share to be accorded our foreign friends.

To turn for a moment to the small increase which the law makes possible for domestic industry — the right to share in the growth of the country, to participate in and partake of its progress and development, is a right which other American business has as a matter of course. It would be a tragic thing were the domestic sugar people to be denied some share of the future. Such denial would prevent realization of the sound results of scientific improvement, of the need to beneficially employ our lands, of the need to grow non-surplus crops that has been accentuated by surplus-crop allotments and acreage restrictions. The acreage of three of the domestic sugar areas has been cut back. Even under the proposed Amendment, it may take some time before the modest share awarded them in our increased consumption will restore the reduction that has been enforced.

The mainland beet and cane areas, and Puerto Rico and Hawaii as

well, have produced in excess of their sugar quotas in recent years. In most cases, the surpluses thus produced have been expensive to handle, difficult to care for. Provision has been made for the lifting, by purchase in 1955, of some excess-quota sugar in both the cane and beet areas. That has been a help. But it has by no means relieved either branch of the industry of the basic problem out of which such excesses arose. In the Louisiana-Florida industry, for example, the quantity of sugar on hand on January first of this year was actually greater by several thousand tons than the quantity on hand on January 1, 1955.

In his Message to the Congress last week, President Eisenhower spoke of the urgency of enacting a new sugar law in these words:

> "The legislation to renew the Sugar Act of 1948, as amended, should promptly be completed. The Congress is aware of the need to give producers, as well as foreign suppliers and the entire sugar industry, as much advance notice as possible in planning their operations."

To this I would like to add a few facts from the practical every-day needs of the sugar business. In the whole course of preparation, growth and harvesting, the sugar crop takes from eight to twenty-four months. The present law expires on December 31 next. The 1956 beet crop and substantial cane acreage will be planted in approaching weeks. Plans for the maintenance and improvement of the equipment and factories and refineries need to be made. Both cropping plans and plant operations require certain knowledge of the provisions of law under which they will be carried out and completed. If the legislation is to have a beneficial effect upon American agriculture and business in this crucial year of 1956, it should be enacted as quickly as possible.

In conclusion, I would like to make one point with the greatest possible emphasis, and that is that the proposed law does not take away from Cuba the right to market one ounce of the quantity which that country had as a quota in this market when consideration of revision and extension of sugar legislation commenced in the House of Representatives last June nor does it deprive Cuba of one ounce of her present quota. Cuba's present quota incidentally, reflects substantially all the growth in the United States market since 1947, and those 8 years of growth increased Cuba's basic share of our market by the huge total of about one million tons a year. The proposed law is vitally important to Cuba and exceedingly generous to that country because it not only protects her present preferred position in the United States market, but also because her present large quota, with substantial sharing of the future growth of the United States market also provided is extended and continued.

I am sure that the members of this Committee will understand my concern that I may not have presented the case for the domestic sugar producing and refining industry as adequately as I wished to do. I take comfort, however, in the understanding of the whole problem that I know the Committee possesses and in the ease with which all can recognize the basic justice of the revisions which the law would make. I know that in your deliberations as to what should be done, you will be guided by your interest and concern in the good of the country. By that measure our claims stand on solid ground.

Domestic Sugar Organizations and Interests for Whom the Witness Frank A. Kemp Appeared

United States Sugar Beet Industry

Amalgamated Sugar Co.
American Crystal Sugar Co.
Big Horn Basin Beet Growers Association of Wyoming
Black Hills Beet Growers Cooperative Association of South Dakota, Inc.
Buskeye Sugars, Inc.

(Continued on next page)

California Beet Growers Association, Ltd.
Central Nebraska Beet Growers Association
Eastern Washington Cooperative Beet Growers Association
Farmers & Manufacturers Beet Sugar Association, representing grower associations and processors of Michigan and Ohio
Franklin County Sugar Co.
The Garden City Co.
Goshen County Cooperative Beet Growers Association of Wyoming
Great Western Sugar Co.
Gunnison Sugar, Inc.
Holly Sugar Corporation
Idaho Sugar Beet Growers Association
Layton Sugar Co.
Lower Snake River Sugar Beet Growers Association of Idaho
Mason City District Beet Growers Association of Iowa
Montana-Wyoming Beet Growers Association
Mountain States Beet Growers Marketing Association of Colorado
Mountain States Beet Growers Marketing Association of Montana
National Beet Growers Federation
National Sugar Manufacturing Co.
Nebraska Non-Stock Cooperative Beet Growers Association
Northern Montana Beet Growers Association
Nyssa-Nampa Beet Growers Association of Idaho and Oregon
Red River Valley Beet Growers Association of Minnesota and North Dakota
Southern Colorado Beet Growers Association
Southern Minnesota Beet Growers Association
Spreckels Sugar Co.
Tongue & Yellowstone Beet Growers Association of Montana
Union Sugar Division, Consolidated Foods Corp.
Utah-Idaho Sugar Co.
Utah Sugar Beet Growers Association
Western Beet Growers Association
Western Colorado Beet Growers Marketing Association
Western Montana Beet Growers Association

Mainland Sugar Cane Industry

American Sugar Cane League
Florida Sugar Producers

Hawaiian Sugar Industry

Hawaiian Sugar Planters' Association

Puerto Rican Sugar Industry

Association of Sugar Producers of Puerto Rico

United States Sugar Refining Industry

United States Cane Sugar Refiners' Association

UP FRONT

(Continued from page 140)

A Cuban Point of View

The Weekly Statistical Sugar Trade Journal published by Willett and Gray, Inc., of New York City, carries a very interesting report each week from Luis Mendoza & Co. of Havana, Cuba, which we are sure their subscribers enjoy reading.

The following paragraphs appeared in the Messrs. Luis Mendoza & Co. report carried in the February 2, 1956 issue.

"In the long run we consider that it would be better for Cuba's interests that the domestic areas should participate automatically in the increases in consumption making the Sugar Act fairer and therefore of a more permanent character and as they would be participating in the increases in consumption at the same rate in which they supply their domestic consumption we cannot consider that as a reduction to Cuba. The real reduction we suffer in the projected measure is in favor of the foreign areas amounting to slightly more than 10% of the increases in consumption and assuming they reach 135,000 tons, as is expected, the real loss for Cuba would be only about 15,000 tons a year, plus about 75,000 tons this year, as the new Sugar Act will be effective one year ahead of schedule."

"The fact is that everybody in Cuba is so upset about this matter of reductions because it has reached the saturation point due to the continuous reductions suffered for various reasons in recent years."

"First of all the 1952 cut of 250,000 tons, then the Philippines, whose large deficits we used to cover, produce at present their full quota. All the domestic areas no longer have deficits which we used to cover to a great extent. Domestic areas, through means of better and modern methods have been increasing production thus requiring larger quotas, but what really hurts us is that the new legislation is favoring the granting of quota increase to

countries who did not cooperate during the war or who are not cooperating with the London Agreement which is backed by the United States. We think this attitude is neither logical nor convenient to the United States and above all the fact is that reductions must be made at Cuba's expense."

Senate Passes Sugar Bill

The U. S. Senate passed the Sugar Bill by voice vote during the afternoon of February 8th and the legislation now goes to conference between committees of the House and Senate where differences in the two bills will be adjusted.

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IN THE FIELD

(Continued from page 141)

cane breeding season.

Mr. Grassl is also using a substance called colchicine on seed pieces in the hope that this chemical will cause mutations in varieties that can be used commercially or as material for the breeding program.

The group left the Station knowing the job is in good hands and with the full knowledge that the Louisiana Sugar Industry is deeply indebted to the U. S. D. A. Station at Canal Point for the many varieties the Station has given Louisiana in the past.

———o———

IN WASHINGTON

(Continued from page 142)

continued until Senate attaches ascertained there were sufficient votes of the floor to defeat the Capeheart amendment.

After the overwhelming defeat of the Administration's sponsored Capehart amendment, other amendments were voted down promptly one after another. One of the defeated amendments was proposed by Senator Fulbright which would have sent the Bill to the Senate Committee on Agriculture and Forestry. Another promptly defeated amendment was proposed by Senator Magnuson who wanted to authorize the Secretary of Agriculture to set aside a reasonable amount of land for sugar beet production, primarily lands in the west which are under irrigation and reclamation projects. Late in the afternoon Senator Bennett of Utah, on behalf of the Administration, made a final effort to amend the Senate Bill. The Bennett amendment would have given Cuba the same share which the Senate Bill gave her, but would have divided the share of the other full duty countries in accordance with their historic percentages. In the words of Senator Bennett, — "the Capehart amendment was defeated and I recognize that my amendment probably will be defeated, but the Administration is anxious to give the Senate an opportunity to vote on the amendment for the purpose of the record." A voice vote was taken and the amendment was defeated.

Senators Ellender and Long of Louisiana and Holland of Florida led the fight for Domestic Sugar Cane interests. Senator Bennett, Republican of Utah was the spokesman for Sugar Beet interests and for the Administration. All of these gentlemen are to be heartily congratulated for the splendid job they did in getting the Bill passed.

Because most Republican members of the House and Senate will be absent from Washington until February 16th for Lincoln Day speeches, it is doubtful if the conferees will have an opportunity to meet within the next ten days, but the Bill should be on the President's desk for signature on or before February 25th.

———o———

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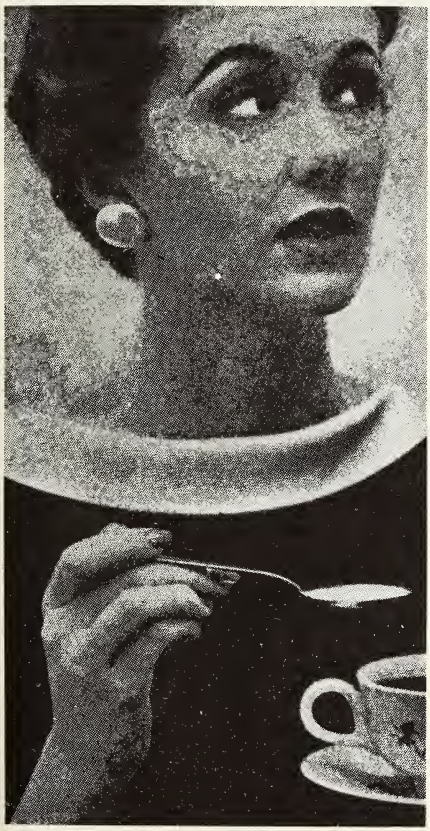

200 ☐ 100 ☐ 50 ☐ 18 ☐

Some guess as high as 600, but the right answer is only 18 calories in a level teaspoonful

If you are counting calories, this fact is even more important–

Sugar can help you cut down on the number of calories you eat

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This is one of a series of advertisements of Sugar Information Incorporated designed to counteract some of the false propaganda being utilized by anti-sugar groups.

Chemical Weed Killers Must Be Applied Accurately . . . There Is No Guess Work When You Apply Them With A . . .

VALOIS WEED SPRAYER

Years of designing, researching, and testing under actual field condition were necessary to develop the Valois Weed Sprayer.

The Valois Weed Sprayer is especially designed for sugar cane farmers.

"MASTER" MODEL VALOIS WEED SPRAYER

Specifications of the "Master" Model Valois Weed Sprayer are as follows:

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PUMP—18 G.P.M. Ni-Resist pump with nylon rollers. Especially fitted to handle chemicals. Leak-proof. Handles large and small volumes. Pressure adjustable from 0 to 200 lbs., P.S.I.

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OPERATOR'S CONTROL—Operator rides top of sprayer. All controls where operator has full and close view of them at all times.

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THE SUGAR BULLETIN

Vol. 34—No. 11 MARCH 1, 1956

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In This Issue

Up Front With The League 156
Freight Rates—Contact Committee Meets—Farm Machinery Group Meets—The Over-Quota Sugar Purchase—James Graugnard Honored—Gibbens Heads Technologists
In The Field With Lloyd L. Lauden 157
Contact Committee Meeting In Baton Rouge to be Held March 13, 1956
In Washington With Joe Ferris 158
Sugar Train Derailed—1956 Sugar Beet Allotments
Recommendations For The Control of Johnson Grass And Other Weeds In Sugarcane 159
Molasses Feed Usage And Corn-Molasses Price Differential 163
Molasses Price History 164
Industrial Molasses Supply By Major Sources 164
Sugar Market Statistics Through February 24, 1956 165
Weekly Average Prices 165

Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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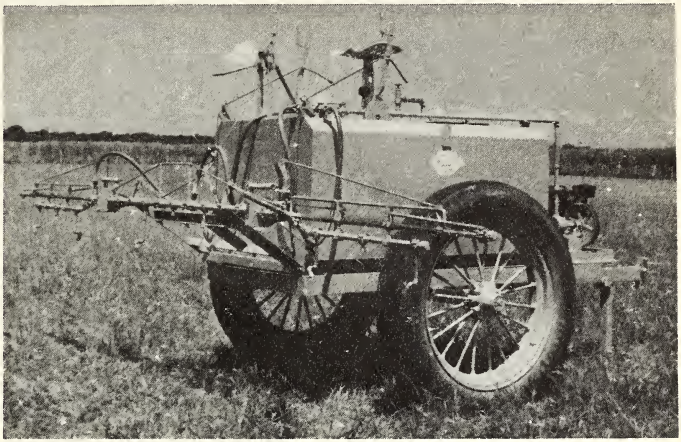

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Freight Rates

It appears that the railroads are never satisfied. In 1954 they finally won their fight for a 24.2 per cent increase in intrastate freight rates on sugarcane and sugar and already they are back again for more. They have requested the Interstate Commerce Commission and the Louisiana Public Service Commission to grant a seven per cent across-the-board freight rate increase on all commodities shipped interstate and intrastate, and the American Sugar Cane League is again opposing any increases in Louisiana on cane and sugar.

The League's Freight Rate Committee, headed by Mr. H. C. Vaccaro, is presently mapping its fight plans and several meetings of the Committee have been held to discuss strategy.

The Louisiana Public Service Commission scheduled a hearing on March 1st to listen to the plea of the railroads. Your League requested a sixty day postponement of this hearing to allow more time to prepare arguments against the increase in rates, and the Commission postponed the hearing to an indefinite date.

Contact Committee Meets

Tuesday, March 13th has been picked as the day on which the Contact Committee of the American Sugar Cane League, headed by Mr. Stephen C. Munson, Chairman, will hold its Annual Meeting at L.S.U. We are indebted to Mr. Lawrence V. George, Editor of the Agricultural Experiment Station, for the following announcement concerning the meeting.

"Latest findings by sugar cane research workers at the Louisiana Agricultural Experiment Station will be presented to the Contact Committee of the American Sugar Cane League when the group holds its annual meeting at the Louisiana State University on March 13. The meeting will be held in Room 110 of the Agronomy-Horticulture Building on the campus. It will begin at 9:30 in the morning and be concluded that afternoon."

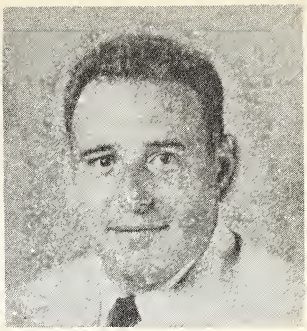
"All sugar cane growers are invited to attend the meeting at which reports will be given by members of the Experiment Station staff who are conducting research on various phases of sugar cane production. Researchers from the Federal station at Houma will also be present for the discussions."

"Subjects to be covered during the day, and the speakers, include: Varieties, E. C. Simon; fertilizer studies and recommendations, Dr. M. B. Sturgis and David Byrnside; agricultural engineering investigations (drainage, cultivation, equipment), H. T. Barr, I. L. Saveson and Z. F. Lund; insect investigations, A. L. Dugas; outfield tests, Dr. T. J. Stafford; cost studies, Dr. Joe Campbell; sugar cane breeding, Dr. S. J. P. Chilton, P. H. Dunckelman, Dr. Richard D. Breaux, and Dr. Elias D. Paliatseas; chemical weed control, E. R. Stamper; and sugar cane disease studies, Dr. R. J. Steib and P. J. Mills."

(Continued on page 162)

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden



Contact Committee Meeting in Baton Rouge to be Held March 13, 1956

Back in the days of the 30's when sugar cane farmers were really searching for a new variety to replace those that had fallen to diseases the Contact Committee of the American Sugar Cane League met with the Scientists of L. S. U. and U. S. D. A. monthly, and during the most trying times meetings were held more often. Research by the Scientists since that time with the cooperation of the Louisiana Sugar Industry, has materially benefited the Louisiana cane farmer.

With new varieties being released every few years, and the constant breeding, selection, testing, and increase program along with other phases of research work, the three cooperating agencies hold only two full meetings of the Committee each year, one at L. S. U., the other at the U. S. D. A. Station. Each year several sub-committee meetings of the Contact Committee are held to handle special phases of the work.

Dr. J. Norman Efferson, Director of the L. S. U. Experiment Station, and Mr. Stephen C. Munson, Chairman of the Contact Committee of the American Sugar Cane League, wish to invite all cane farmers to the Annual Spring Meeting to be held on the L. S. U. Campus in the Agronomy - Horticulture Building, March 13, 1956.

A check of the schedule of the program will show the meeting should be interesting and informative.

Program of the Meeting

9:30 - 9:50
Sugarcane Varieties. Mr. E. C. Simon

9:50 - 10:20
Fertilizer Studies and Recommendations. Dr. M. B. Sturgis, and Mr. David Byrnside

10:20 - 10:35
Recess

10:35 - 11:00
Sugarcane Breeding. Dr. S. J. P. Chilton, Mr. P. H. Dunckelman, Dr. Elias Paliatseas, Dr. Richard Breaux

11.00 - 11:25
Sugarcane Weed Control. Mr. E. R. Stamper

11:25 - 11:50
Sugarcane Diseases. Dr. R. J. Steib, Mr. P. J. Mills

11:50 - 1:30
Noon Recess

1:30 - 2:10
Agricultural Engineering Investigations. Mr. H. T. Barr, Mr. I. L. Saveson, Jr., Mr. Zane F. Lund

2:10 - 3:00
Insect Investigations. Mr. A. L. Dugas

3:00 - 3:30
Test Fields. Dr. T. J. Stafford

3:30 - 4:00
Cost Studies. Dr. J. R. Campbell

Mr. E. C. Simon will tell of the testing of unreleased varieties on the L. S. U. Station and give some idea of what can be expected in the way of new canes for the future.

Dr. M. B. Sturgis and Mr. David Byrnside will discuss the fertilizer

(Continued on page 162)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The legislative sugar train is way behind schedule but it should be back on the track and moving, within the next few days.

House Agriculture Committee Chairman, Harold D. Cooley, has had his hands so full of other matters he said, that he has not had time to ask Speaker Rayburn to appoint a committee to meet with Senate conferees on the Sugar Bill. In conversation with some of his colleagues, Mr. Cooley appeared to be irked because of the extensive changes the Senate made to the House Bill. He said he had worked hard and diligently to get what he considered a fair Sugar Bill passed by the House and was surprised to learn his efforts had not met with universal approval. Mr. Cooley indicated however, that he would not let his personal feelings influence his actions and as soon as he could clear away some of the important items on his agenda, he would get around to the conference on the Sugar Bill.

There has been considerable speculation as to the real reason for the delay in going to conference on the Sugar Bill. Some say Cooley wants to wait until the Senate passes the Farm Bill and then conduct a conference on it and the Sugar Bill concurrently. There has been, and still is considerable doubt that the Senate will pass the Farm Bill with the 90% price support provision. Mr. Cooley, father of the 90% rigid price prop, naturally is expected to fight to the last ditch for his bill which the House passed last session by a very narrow margin.

Sugar Train Derailed

Other wiseacres blame the delayed sugar conference on tobacco. It was common knowledge when the Senate Finance Committee was conducting hearings on the Sugar Bill that domestic tobacco interests were urging Senator Alben W. Barkley of Kentucky, a committee member, to introduce an amendment to protect domestic tobacco exports to the Philippines. After a conference with representatives of the Philippine government, representatives of domestic tobacco interests and legislative leaders in the House and Senate, Senator Barkley notified Senator Byrd, Chairman of the Finance Committee that he would not introduce the proposed tobacco amendment. It is presumed that the Philippinos promised to be good boys, and the Philippine government promised to give definite assurance to that effect; therefore, as soon as such assurance has been received, Messrs. Cooley and Byrd and their fellow conferees will meet to discuss the Sugar Bill.

1956 Sugar Beet Allotment

The United States Department of Agriculture has announced that a public hearing regarding the allotments of the 1956 sugar quota for the Domestic Beet Sugar Area will be held on March 8, 1956 in Washington, D. C. The announcement said that allotment of the quota is necessary to provide each processor of domestic beets an equitable opportunity to market sugar within the 1956 quota for the area.

(Continued on page 163)

RECOMMENDATIONS FOR THE CONTROL OF JOHNSON GRASS AND OTHER WEEDS IN SUGARCANE

Ernest R. Stamper, Louisiana Agricultural Experiment Station, Department of Plant Pathology

The following recommendations for Johnson grass control in sugarcane are based on the results from over seven years of research by the Louisiana Agricultural Experiment Station. While the recommendations are not considered to be the ideal ones, they are the best available, both from the research results obtained, and use by various individuals on their own plantations. There is no doubt that new chemicals will eventually reduce costs considerably and also will increase the efficiency of a chemical weed control program, but no one can afford to wait until the ideal program is found.

Johnson Grass Control in Sugarcane Fields

Fallow Plowing: It is necessary to plow thoroughly six to eight times all land to be planted to sugarcane in order to kill the Johnson grass plants and their rhizomes from the previous stubble cane crop. There is no substitute for fallow plowing.

Plant Cane Crop: A chemical control program is essential in order to prevent reinfestation of the plant cane from Johnson grass seedlings. In most areas where large amounts of Johnson grass occur in stubble crops, seed are produced. These seed will germinate and reinfest plant cane with Johnson grass seedlings.

Fall Treatment: (For cane planted August 1 to October 15)[1]

1. Surface of soil should be made firm by rolling or cultipacking immediately after planting and covering the cane.
2. Apply a drill spray of 1 lb. acid equivalent of the amine salt of 2,4-D on band 36″ wide on top of the row.
3. Approximately three weeks later, or after a rain, apply 4 to 7 lbs. of 90% sodium TCA per acre on 24″ drill area, depending on the number of seedlings escaping the 2,4-D treatment.
4. Cultivated middles and sides of rows as needed, and rogue carefully.

Spring Treatment:

1. Immediately after shaving and offbarring, if shaving is practiced, apply 4 lbs. of 90% sodium TCA on 24″ to 30″ band on drill.
2. One month later or immediately after fertilizing the cane, apply same amount of TCA as given in 1, plus 1 lb. acid equivalent of amine salt of 2,4-D on 24″ to 30″ band on drill.
3. Rogue as necessary to remove Johnson grass plants which have escaped the chemical.
4. Apply 2 lbs. acid equivalent of 2,4-D as blanket spray (the whole area of row) immediately after layby.
5. A careful roguing is recommended after layby.

Stubble Cane: Recommended for badly infested stubble and for stubble from plant cane under a control program if the stubble is *shaved* and *offbarred.*

1. Shave, offbar, and if possible use a rotary hoe or stubble digger.
2. Apply 11 lbs. of 90% sodium TCA plus 1 lb. Amine 2,4-D on a band 24″ to 30″ wide on drill. This should be applied *immediately* after shaving and offbarring, and before the Johnson grass has sprouted.
3. Apply 4 lbs. of 85% sodium Dalapon after fertilizing and before grass is 10 inches high if needed.
4. Apply 2 lbs. acid equivalent of amine salt of 2,4-D per acre as a blanket spray immediately after layby.
5. Knife escaped Johnson grass heads to reduce seed production.

Spot Treatment: Recommendation

(Continued on next page)

where only an average of one stool of Johnson grass can be seen heading every 50 ft. of row or less and seedlings are known to be too plentiful.

1. Apply 1 lb. acid equivalent of the amine salt of 2,4-D per acre on 24" to 30" band on drill, either after shaving, or if cane is not shaved, when offbarring is done.

2. Spray the Johnson grass plants when they can be seen above the cane, with one of the three following solutions:

a. 1 to 1½ lbs. of sodium chlorate plus ½ to ¾ lb. of calcium chloride per gallon of water.

b. ¾ lb. of 90% sodium TCA per gallon of water.

c. ¼ lb of 85% sodium Dalapon per gallon of water.

Either of above solutions will kill Johnson grass plants. It is necessary to be sure the Johnson grass plants are covered with the spray solution.

Ditchbanks and Headlands Infested with Johnson Grass

1. Spray at rate of 600 pounds per acre of sodium chlorate plus 300 lbs. of calcium chloride in 400 gallons of water. Spray when Johnson grass is beginning to flower.

2. Spot spray with same strength solution the next two or three years those plants which were missed or escaped the first chemical treatment.

Chemical Weed Control in Sugarcane where Johnson Grass is not a Problem

In areas where Johnson grass seedlings are not a problem but other grasses and broadleaf weeds are a problem, it is advisable for the sugarcane grower to follow the recommendations for Johnson grass seedling control in plant cane using the TCA, 2,4-D treatment.

In areas where grass is not a problem and broadleafed weeds are the main problem, follow the same steps recommended for Johnson grass seedling control using 2,4-D alone and leaving the TCA out of the spray solution.

Where Johnson grass seedlings, Johnson grass rhizomes, or Bermuda grass are not a problem CMU (Karmex W) should be tried to determine its value to the individual grower.

CMU is not selective in that seedlings of both broadleafed weeds and grasses are affected. It is a preemergence weed killer and should be used where cane is shaved. If shaving is not practiced, an early application of 2,4-D at 1 lb. per acre should be made in January or early February before the Karmex W is used. An application of 1¼ lbs. per acre of 80% CMU should be used on the drill (24 to 30" wide) after shaving and off-barring and before the weed seedlings have appeared. A layby spray of 2 lbs. of 2,4-D (blanket, the entire area) should be applied.

CMU is not a water soluble compound and unless there is a mechanical agitator in the sprayer and larger nozzle tips and screens are substituted for those normally used, (increasing the amount of water to 20 or 25 gallons per acre) trouble will very likely be encountered in application. The changes needed are given in the manufacturer's recommendations.

Cautions in the Use of Recommended Chemical Herbicides

2,4-D is a plant killer. Extreme care should be taken to prevent the drift of this chemical in spray solutions to areas where sensitive plants such as cotton, bell peppers, ornamental shrubs, etc. are growing. The use of 2,4-D in areas where cotton is grown should be restricted to early spring before any cotton is planted or to the fall after cotton has been harvested.

The use of Sodium chlorate can create a fire hazard and is also very corrosive to equipment. Care should be taken to change all clothing after Sodium chlorate is used, and calcium chloride should always be added as a safener. Smoking or open flames around Sodium chlorate should be avoided.

TCA either as a concentrated liquid or powder will burn the skin. Care in handling this chemical is important.

The recommendations on the manufacturers' labels for handling all chemicals should be followed.

DALAPON (Sodium 2, 2-dichloropropionic Acid)

Among the several chemicals tried on a field scale in the 1955 growing season, Dalapon gave good results in killing Johnson grass in stubble cane. It also appeared promising as a control for Bermuda grass. The experiments in 1954 and 1955 indicated that application rates for effective Johnson grass control in stubble cane were from 4 to 5 lbs. of the commercially prepared product (85% sodium salt). Toxicity occurred where 6 lbs. or more of Dalapon per acre were used on the drill. The tests in 1954 and 1955 also indicate that better results were obtained with Dalapon when applied following an early application of 11 lbs. of TCA when the stubble cane was shaved and off-barred. One application of Dalapon at 4 lbs. per acre when applied after the Johnson grass had sprouted in the stubble gave good results in killing the Johnson grass in most of the tests. Yields of cane in tons per acre were not increased when Dalapon alone was used. The germination of stubble cane is retarded when Johnson grass is germinating. Any condition that prevents the early suckering of the shoots reduces the number of stalks per acre and thus reduces the yield of the sugarcane.

In tests where the stubble cane was shaved, off-barred and sprayed with 11 lbs. of TCA plus 1 lb. of 2,4-D the cane germinated and suckered well. This TCA treatment usually retards the growth of Johnson grass until May or about the time sugarcane is fertilized. Some years the TCA treatment gives a very high level of control, other years its efficiency is reduced by dry weather.

If Johnson grass is growing after the TCA treatment, Dalapon at 4 to 5 lbs. per acre should be tried to determine its value to the individual grower. Late applications of 2 to 2½ lbs. of 85% Dalapon has shown promise when applied late on plant cane for the control of Bermuda grass, red-root or red bottom grass as well as some other grasses. If Dalapon should be tried in plant cane a directed spray should be used, to keep the spray on the grass and not on the sugarcane.

Hazards and Cautions in the Use of Sodium Dalapon as a Chemical Herbicide

Sodium Dalapon is a chemical that kills grass and sugarcane is a grass. There are indications that there is some difference in the amount of Dalapon required to kill Johnson grass and the amount that sugarcane will tolerate. Some varieties of sugarcane, C. P. 36-105 and C. P. 44-101, are more tolerant than other varieties to Dalapon.

Extreme care should be exercised in the application of Dalapon in sugarcane, or the gain to be obtained by controlling Johnson grass will be more than lost by injuring the sugarcane. Not more than 4 lbs. per acre should be applied in stubble cane. Until further data is obtained with respect to Dalapon and its effects on weed, sugarcane, maturity and sucrose, its use should not be on any scale other than an experimental one, so that each individual grower becomes familiar with handling Dalapon.

The time of application of Dalapon is very important. It should be applied on Johnson grass not more than 8-12 inches high and before the Johnson grass has set flowers. Since Dalapon is not an effective broadleaf weed herbicide, 1 lb. of 2,4-D should be used on the drill when the Dalapon is applied.

The use of Sodium Dalapon for grass control in sugarcane was favorably approved by the United States Department of Agriculture,

(Continued on next page)

CONTROL

(Continued from page 161)

Pesticide Regulation Section in May 1955.

[1] Amounts of chemicals given are actual amounts to be used per acre.

IN THE FIELD

(Continued from page 157)

tests carried on around the cane belt and will probably discuss the fact that some soils in cane need more than just nitrogen in the way of fertilizer.

Dr. S. J. P. Chilton, Mr. Preston Dunckelman, Dr. Elias Paliatseas, and Dr. Dick Breaux will discuss the flowering of cane at Baton Rouge, the seedling work, the studies being conducted on selection of new canes, and all phases of the intricate work of making a new variety.

Mr. Ernest Stamper will discuss in detail the weed control problem of Louisiana giving specific information and cautions of both the old chemicals in use and the possible uses of some new ones.

Dr. Rene Steib and Mr. Percy Mills will discuss the latest recognized sugar cane disease, Stunting Disease, and how it affects sugar cane. Other diseases will also be discussed.

Mr. Harold Barr, Mr. I. L. Saveson, and Mr. Zane Lund will cover methods of deep tillage, benefit and cost to be expected of deep tillage, and compaction studies. As a result of research done early by these men most fields in the sugar belt have been crowned for better drainage.

Mr. A. L. Dugas will cover the borer control program; chemical as well as biological control methods. After the heavy loss last year from borer damage there should be considerable interest in this work.

Dr. T. J. Stafford will discuss the results on unreleased canes in the Outfield Test around the sugar belt. This work decides whether a cane has what it takes to be released. A great many more are tested than are ever released.

Dr. Joe Campbell will discuss cost studies for various size farms. A farmer will have an opportunity to see how his costs compare with other farms of the same size and with different size farms.

Dr. Campbell will point out how increase yields per acre affect unit cost.

There is much to be gained from this meeting. Farmers should make every attempt to attend.

UP FRONT

(Continued from page 156)

"S. C. Munson, Jeanerette, is chairman of the Contact Committee and will preside at the meeting."

Farm Machinery Group Meets

On March 2nd the Farm Machinery Advisory Committee of the American Sugar Cane League, headed by Mr. J. J. Shaffer, Jr., Chairman, will meet at the Houma Experiment Station to discuss the results obtained with experimental equipment during the season just completed and to map programs for the future.

The cane harvester and the cane planter being developed by Mr. R. M. Ramp, Agricultural Engineer of the Houma Station, are the two most interesting machines undergoing field tests, but other experimental equipment will undoubtedly be discussed by the Committee.

The meeting is scheduled to start at 2 P. M.

The Over-Quota Sugar Purchase

The Sugar Division has called for bids from the local refiners totaling approximately 28,000 tons of sugar to be refined from Louisiana over-quota raws. This is the latest developments in the agreement by the Government to purchase 58,520 tons of over-quota Louisiana raw sugar to relieve some of the pressure of surplus sugar in our industry.

The Sugar Division originally said that all the over-quota sugar was to be delivered to the New Orleans docks for shipment over seas in raw form but subsequent developments have apparently necessitated a change in plans.

Perhaps the decision to refine at least part of the sugar in this Country will result in speeding up the movement of the sugar. In any event, it will give the local refiners an opportunity to participate in the transaction, which seems to us to be a step in the right direction.

Gibbens Heads Technologists

The American Society of Sugar Cane Technologists elected R. T. Gibbens of Mathews, President at the Annual Meeting held in Houma, La. on February 28th. Other officers elected were Frank Barker, of Lockport, 1st Vice-President; A. L. Dugas, of Baton Rouge, 2nd Vice-President; Feltus Leake of Port Allen, Chairman of the Manufacturing Section; Warren Harang, of Thibodaux, Chairman of the Agricultural Section, and Arthur G. Keller, of Baton Rouge, Secretary-Treasurer.

James Graugnard Honored

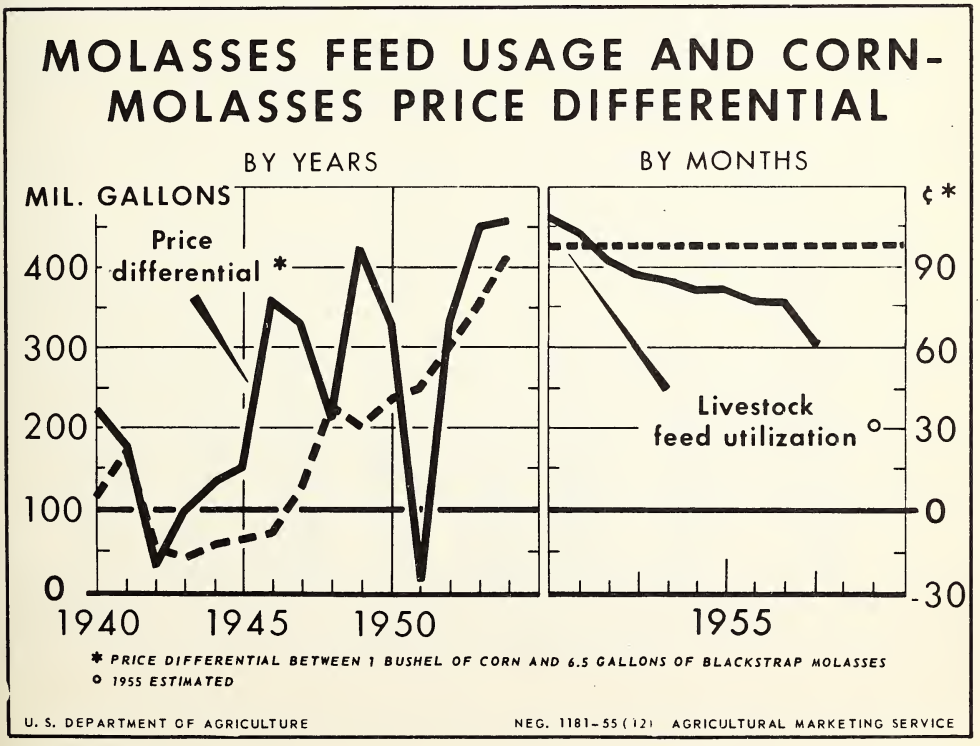
James Graugnard, of St. James, La. who needs no introduction to the readers of *The Sugar Bulletin*, was declared "the outstanding Louisiana farmer of the year" at a meeting in Lutcher, La. on February 25th, sponsored by the Junior Chamber of Commerce and the American Petroleum Institute.

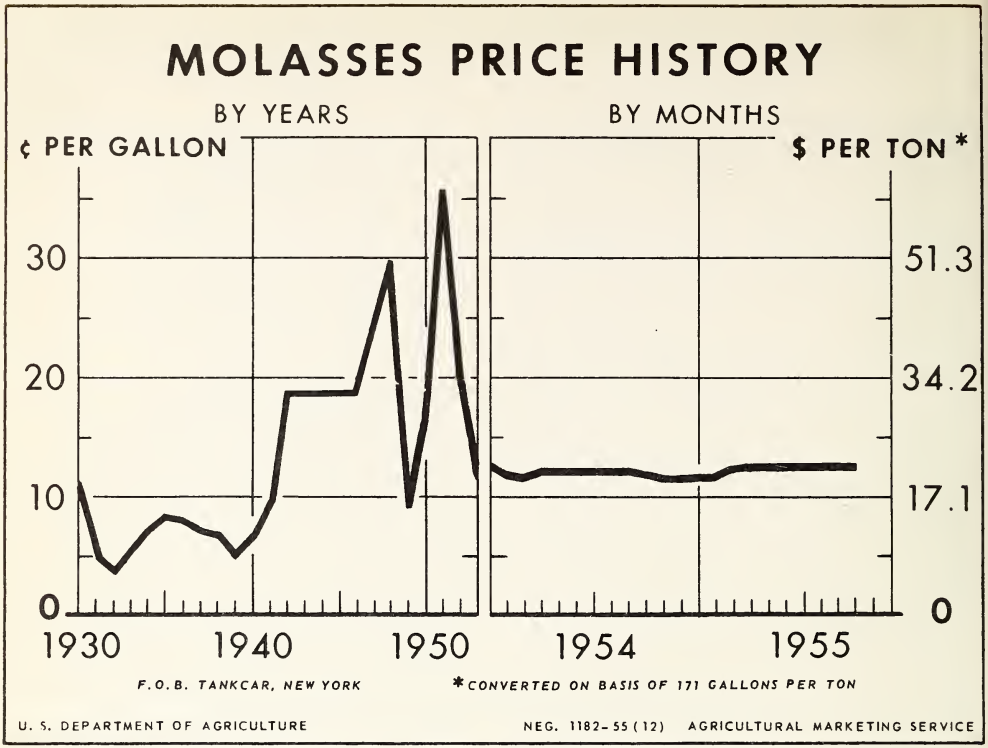
Anyone who has attended the St. James Parish Field Day and had a first hand look at the Graugnard farm will know why Jimmy won the outstanding farmer award. Hard work plus scientific planning has made this one of the outstanding farms in the State.

IN WASHINGTON

(Continued from page 158)

It is understood that while the hearing will begin in Washington, D. C., March 8th, it will in all probability be recessed until March 15th, and will be resumed at that time in Dallas, Texas. Beet processors are scheduled to meet informally with representatives of the Sugar Division in Dallas, March 12th in an effort to reach an amicable agreement on a formula for allocating the 1956 quota for the beet area.




MOLASSES PRICE HISTORY
BY YEARS
BY MONTHS
¢ PER GALLON
$ PER TON *
30
20
10
0
51.3
34.2
17.1
0
1930
1940
1950
1954
1955
F.O.B. TANKCAR, NEW YORK
* CONVERTED ON BASIS OF 171 GALLONS PER TON
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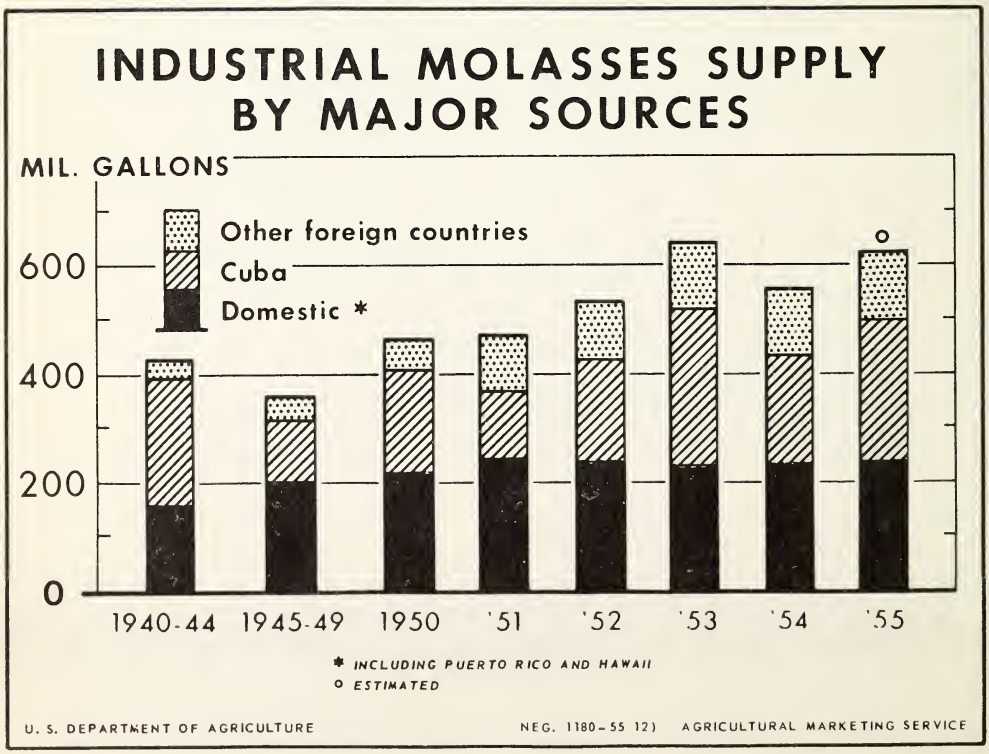
NEG. 1182-55 (12) AGRICULTURAL MARKETING SERVICE


INDUSTRIAL MOLASSES SUPPLY
BY MAJOR SOURCES
MIL. GALLONS
Other foreign countries
Cuba
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600
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1940-44
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1950
'51
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o
* INCLUDING PUERTO RICO AND HAWAII
o ESTIMATED
U. S. DEPARTMENT OF AGRICULTURE
NEG. 1180-55 12) AGRICULTURAL MARKETING SERVICE

SUGAR MARKET STATISTICS THROUGH FEB. 24, 1956

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	5.90	5.90	5.90
QUOTA RAWS DELIVERED NEW ORLEANS	5.86	5.86	5.86
WORLD SPOT RAWS (In Cuba)	3.30	3.28	3.17

SUGAR FUTURES No. 6
(Closing Bid Prices)

	May	July	Sept.
Today	5.42	5.51	5.54
1 Month Ago	5.42	5.52	5.52
1 Year Ago	5.43	5.55	5.61

OFFSHORE RECEIPTS AT NEW ORLEANS
(Long Tons, 2,240 lbs.)

	To Date 1956	Same Date 1955
American	53,476 tons	41,728 tons
Godchaux	21,427 tons	29,582 tons
Colonial	29,637 tons	37,868 tons
Henderson	12,215 tons	11,614 tons
Southdown	None	None
South Coast	3,727 tons	5,550 tons
Supreme	17,327 tons	17,938 tons
Totals	137,809 tons	144,280 tons

Weekly Average Prices

The weekly average prices issued by the Louisiana Sugar Exchange since the start of the 1955-56 pricing period have been as follows:

Week ending October 13, 1955
Raws 6.00, Blackstrap 9.75

Week ending October 20, 1955
Raws 5.99, Blackstrap 9.75

Week ending October 27, 1955
Raws 5.96, Blackstrap 9.75

Week ending November 3, 1955
Raws 5.95, Blackstrap 9.845

Week ending November 10, 1955
Raws 5.86, Blackstrap 10.00

Week ending November 17, 1955
Raws 5.85, Blackstrap 10.00

Week ending November 24, 1955
Raws 5.91, Blackstrap 10.00

Week ending December 1, 1955
Raws 5.94, Blackstrap 10.00

Week ending December 8, 1955
Raws 5.81, Blackstrap 10.15

Week ending December 15, 1955
Raws 5.77, Blackstrap 10.25

Week ending December 22, 1955
Raws 5.79, Blackstrap 10.40

Week ending December 29, 1955
Raws 5.80, Blackstrap 10.50

Week ending January 5, 1956
Raws 5.80, Blackstrap 11.00

Week ending January 12, 1956
Raws 5.81, Blackstrap 11.00

Week ending January 19, 1956
Raws 5.86, Blackstrap 11.20

Week ending January 26, 1956
Raws 5.87, Blackstrap 12.00

Week ending February 2, 1956
Raws 5.84, Blackstrap 12.50

Week ending February 9, 1956
Raws 5.80, Blackstrap 12.50

Week ending February 16, 1956
Raws 5.85, Blackstrap 12.50

Week ending February 23, 1956
Raws 5.87, Blackstrap 12.50

Season's Average for Raws through February 23, 1956—5.8665

The Pricing Period for Blackstrap ending on February 23, 1956. The Season's Average for Blackstrap is 10.77975.

The Molasses Bonus per actual ton of cane is 17.207 cents.

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In This Issue

Up Front With The League 172
Sugar Prices—Farm Machinery Committee Meets—Inspect Paper Plant—Molasses Helps Rice Oil—Rain Making

In The Field With Lloyd L. Lauden 173
Observations and Opinions

In Washington With Joe Ferris 174
Highways—Byways—Sugar Bill Delayed

Fertilizer Recommendations For Sugarcane 175

International Sugar Problems 176

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in the interests of the Domestic Sugar Cane Industry

THE SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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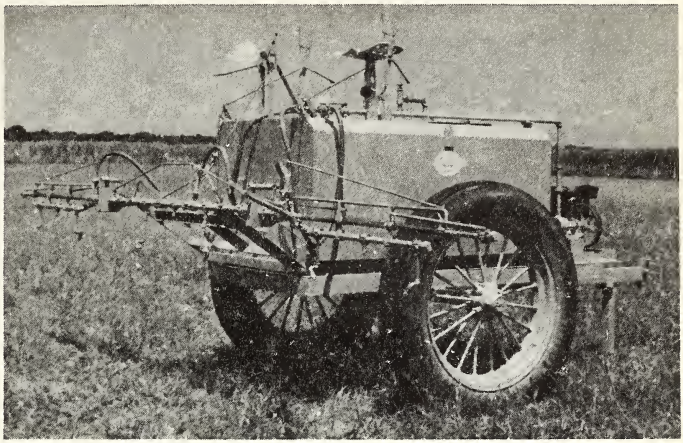

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Sugar Prices

Beginning on page 176 of this issue we are printing an address delivered by Mr. Lawrence Myers, Director of the Sugar Division, before the Sugar Club of New York City on February 20th the subject of which is "International Sugar Problems". Mr. Myers is one of the world's foremost sugar market economists and we feel sure that you will enjoy reading his views, especially those regarding the tie-in between the price of sugar in the "world" market and the price of quota sugar in the United States.

We have always believed that the prime objective of the Sugar Act is to divorce the U. S. sugar market from the world market but, as you will see, Mr. Myers states that "this country has never been able for an extended period to insulate its domestic sugar market from the world market."

In this connection, it is true that prices in the two markets have as a general rule, paralleled one another, but this has been the result of administrative policy rather than uncontrollable economic factors which prompts us to repeat that it isn't the Act, it's the acting.

Farm Machinery Advisory Committee Meets

The Farm Machinery Advisory Committee of the American Sugar Cane League met at the Houma Station on March 2nd and decided to ask Mr. R. M. Ramp, Agricultural Engineer of the Station, to continue his efforts to develop a cane harvester that will clean and load cane in the field, and a two-row cane planting machine. The Committee hopes, also, to arrange for further experimental work on a top cutter which the entomologists say will greatly reduce borer infestation.

Attending the Houma meeting to confer with Mr. Ramp were Mr. J. J. Shaffer Jr., Chairman of the League's Farm Machinery Advisory Committee; Messrs. Thomas Lowe, Ridley LeBlanc, I. L. Saveson, Dr. E. V. Abbott, members of the Committee; Messrs. Gilbert Durbin, and Lloyd L. Lauden from the League's New Orleans office, and Herbert Miller, U.S.D.A. Engineer, from Beltsville, Maryland.

Inspect Paper Plant

Leaders of Louisiana's sugar cane industry visited Lockport March 8 for an inspection trip of the Valentine Pulp & Paper Company's paper mill. The Valentine mill is the only one in America making paper from bagasse.

Some 56 guests were shown the various steps required to turn out high grade white paper from the residue of sugar cane. A barbecue was served at the plant site at lunchtime.

Ed Powell, Executive Vice-president of the paper company told visitors the mill is now using 40,000 tons of bagasse annually and will take much more in the immediate future.

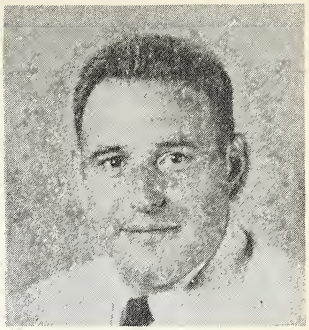
Molasses Helps Rice Oil

An official release from the U. S. D. A. Southern Utilization Research Branch says that refinery losses of rice oil during the usual alkali-

(Continued on page 182)

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden



Observations and Opinions

A recent survey of the sugar belt has indicated excellent stubble cane stands and a promise of very good stands in plant cane for the 1956 cane crops.

Cultivation in all areas is progressing at a good rate although rains during the first two weeks of March delayed cultivation operation in some areas.

Winter cover crops have made good growth this year. Excellent growth has been observed generally, in both Sour Clover and Austrial Winter Pea. Very little vetch was observed other than that which was mixed with Austrian Winter Pea.

Winter grass is probably worse this year than it has been for several years. Much acreage in plant cane is being shaved because of the heavy growth of winter grass over it. Many acres of stubble cane are also being shaved because of either high stubble pieces or because of the Johnson grass control program.

It is hoped that the heat treated cane was shaved first this year and before field run cane, and if not, it is hoped that the shaver blade was sterilized with alcohol, flame or steam before going into fields of heat treated seed to prevent recontamination. There is the belief that the virus of the disease is killed by exposore to weather if the tools are not used for periods of a week or more, but it is always desirable to take extra precautions.

It appears that cane in the Lower Teche area is slightly taller than in other areas. It also appears that the winter grass had the same advantage.

There is more general interest in the use of potash fertilizer this year than in the past. Several in the industry are asking questions about potash fertilizer and a few have already made large scale purchases. There has also been considerable interest in the use of phosphorus fertilizer. Dr. M. B. Sturgis and Mr. David Byrnside of L.S.U. and Mr. Lester Davidson of the U.S.D.A. Sugar Station recommend the use of both of these fertilizers on some soils. Elsewhere in this issue are the fertilizer recommendations for this year. Because of the high aplications of nitrogen now in use many of the light soils will show a yield increase response to phosphorus and potash.

If yields have not been good on the light soil, or if soybeans or sour clover have not yielded heavily on these soils, phosphorus and potash deficiencies can be suspected. The cost of applying these two fertilizer elements to several acres as a trial is not much. County Agents throughout the belt will be happy to assist farmers with trials and soil sampling.

The interest in the chemical weed control program becomes greater each year. Those farmers who were reluctant to accept the program at first, but nevertheless gave the program a trial, now accept the chemical program as a necessary step in the cultivation of cane. A recent survey by Mr. Ernest Stamper, Mr.

(Contniued on page 183)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Highways

The House Ways and Means Committee has approved a new federal tax on trucks weighing more than 26,000 lbs. which is expected to yield nine hundred million dollars over the next sixteen years to help finance an expanded highway program. The truck tax proposed by Representative Daniel Reed, Republican of New York would impose a tax of $1.50 per year per 1,000 lbs. on trucks over 26,000 lbs. gross vehicle weight, (fully equipped vehicle with full load). The bill has been ordered reported out and will come to the floor of the House under a closed rule which will not permit amendments. Passage of this bill by the House seems assured.

Many growers and processors of sugar cane in Louisiana, Florida and Hawaii will be adversely affected if this proposed tax becomes a law. The Hawaiians are particularly upset about it because under the proposed Highway Bill no highways will be built in Hawaii although the sugar industry of the islands would be a large contributor because of this proposed taxation of trucks.

By-ways

Senator Patrick McNamara of Michigan has introduced a bill, S.3310 under the following title—"To amend the Fair Labor Standards Act of 1938, as amended, to provide greater coverage for employees of food industries whose activities effect interstate commerce, and for other purposes." This bill proposes to take away from the sugar cane industry and other food industries the seasonal exemption from payment of overtime wages during the season. Employers engaged in activities effecting interstate commerce would have to pay time and a half for any work-week longer than forty hours or a work day longer than eight hours. The bill is pending in the committee on Labor and Public Welfare. No hearings have been scheduled during this session.

Action by either House or Senate on any bill to extend coverage under the Fair Labor Standards Act is extremely unlikely.

Another bill of interest to domestic cane sugar producers is H. R. 9353 introduced by Representative Philip J. Philbin of Massachusetts, which was referred to the Committee on Ways and Means. This bill would provide for a refund for the import tax on sugar used as a livestock feed or in the production of livestock feed after June 30, 1955. Its pupose is to permit the importer of so-called "green sugar" to get back the taxes he paid on a considerable quantity of sugar imported from the Dominican Republic during 1955. Samples of this "green sugar" when submitted to the customs bureau for classification contained certain vegetable dyes and added salts which made such sugar unfit for human consumption, consequently the customs bureau permitted it to enter the U. S. at the same duty as blackstrap molasses. After shipments of the "green sugar" began to arrive in considerable volume customs officials found that the vege-

FERTILIZER RECOMMENDATIONS FOR SUGARCANE

(Prepared jointly by M. B. Sturgis and David Byrnside of L. S. U. and Lester Davidson of the U. S. D. A.)

To plant cane on light and medium textured soils apply 40 to 60 pounds of nitrogen per acre by use of any of the common carriers. On heavy textured soils apply 60 to 80 pounds of nitrogen. Where the green weight of legumes turned under ahead of planting cane is as much as 8 to 10 tons per acre, it is not necessary to fertilize plant cane. In most cases the yields of legumes are not this high.

On stubble cane on the medium textured to heavy alluvial soils of the Mississippi or Red River bottoms, use 80 or 100 pounds of nitrogen per acre. Where known deficiencies of phosphorus and potassium exist, which is usually in the very fine sandy loam and silt loam types, 25 to 40 pounds of P_2O_5 and 40 to 60 pounds of K_2O should be applied in addition to nitrogen. In some cases the plant food may be supplied by the application of 500 pounds of 6-8-12, 10-5-10 or 0-10-20 per acre supplemented with 50 to 80 pounds of nitrogen from either solid or liquid materials.

To stubble cane on the medium to light textured soils of the Pleistocene Mississippi terraces, which areas are largely west of the Teche and include the Richland, Olivier and Iberia series, apply 80 to 100 pounds of N 25 to 40 pounds of P_2O_5, and 40 to 60 pounds of K_2O.

Nitrogen may be supplied from any commonly available solid or liquid materials. Where anhydrous ammonia is being used to supply nitrogen, minerals may be applied either before the ammonia or in the same operation from hoppers mounted on the sides of the tractor. The practice of splitting applications of nitrogen to stubble cane on medium textured soils where as much as 80 or more pounds of nitrogen is applied is proving profitable in some cases. Half of the nitrogen can be applied four inches deep in the middles at the last cultivation. Ammonia and other highly soluble carriers of nitrogen are especially adaptable to split applications.

Over a period of years the highest efficiency in extra production of sugar cane from fertilizer nitrogen has been one ton of cane for each increment of 6 pounds of nitrogen. Where phosphate and potash were needed for sugar cane, the addition of 40 pounds of P_2O_5 and 60 pounds of K_2O per acre increased the yield of cane 5 tons per acre above the use of 60 to 100 pounds of nitrogen alone.

Fertilizer Recommendations for Sugar Cane were prepared jointly by the Louisiana Agricultural Experiment Station and the U. S. Department of Agriculture Sugar Station, Houma, Louisiana.

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table dyes could be easily washed out of the sugar, leaving it palatable and usable for human consumption. Customs then required the importers to pay the full tax, 50 cents per 1,000 pounds, applicable to sugar. This "green sugar" is produced in a country which has much lower wage and living standards than the United States, and can under-sell sugar produced in Louisiana and Florida for livestock feed.

Although the importer naturally would like to have his taxes refunded there seems little likelihood the bill will pass.

Sugar Bill Delayed

The legislative sugar train is still off the track. Representative Harold Cooley, Chairman of the House Committee on Agriculture has not yet appointed the House Members of the Conference Committee. It now seems likely that no conference

(Continued on page 183)

INTERNATIONAL SUGAR PROBLEMS

Address delivered by Lawrence Myers, Director, Sugar Division, Commodity Stabilization Service, U. S. Department of Agriculture, before the Sugar Club of New York, February 20, 1956 and printed in Sugar Reports #46 of the USDA.

Again I am indebted to the Sugar Club for the opportunity of bringing some of our sugar problems before its membership. You men are peculiarly qualified to consider these problems. In addition to your basic knowledge and demonstrated ability in this field, you have a personal interest in determining how the world sugar problem will unfold.

I am sure you all know that it is anticipated that the United Nations will call a conference, probably here in late May, to provide for an examination and renegotiation of the International Sugar Agreement. The Agreement, signed in London in October 1953, has a duration of five years beginning January 1, 1954. Article 42 (2) of the Agreement provides, however, that in its third year the Council shall "examine the entire working of the Agreement, especially with regard to quotas and prices and shall take into account any amendment to the Agreement which in connection with this examination any participating government may propose." The conference which is expected to be held in New York in late spring will be called to meet the requirements of that provision of the Agreement.

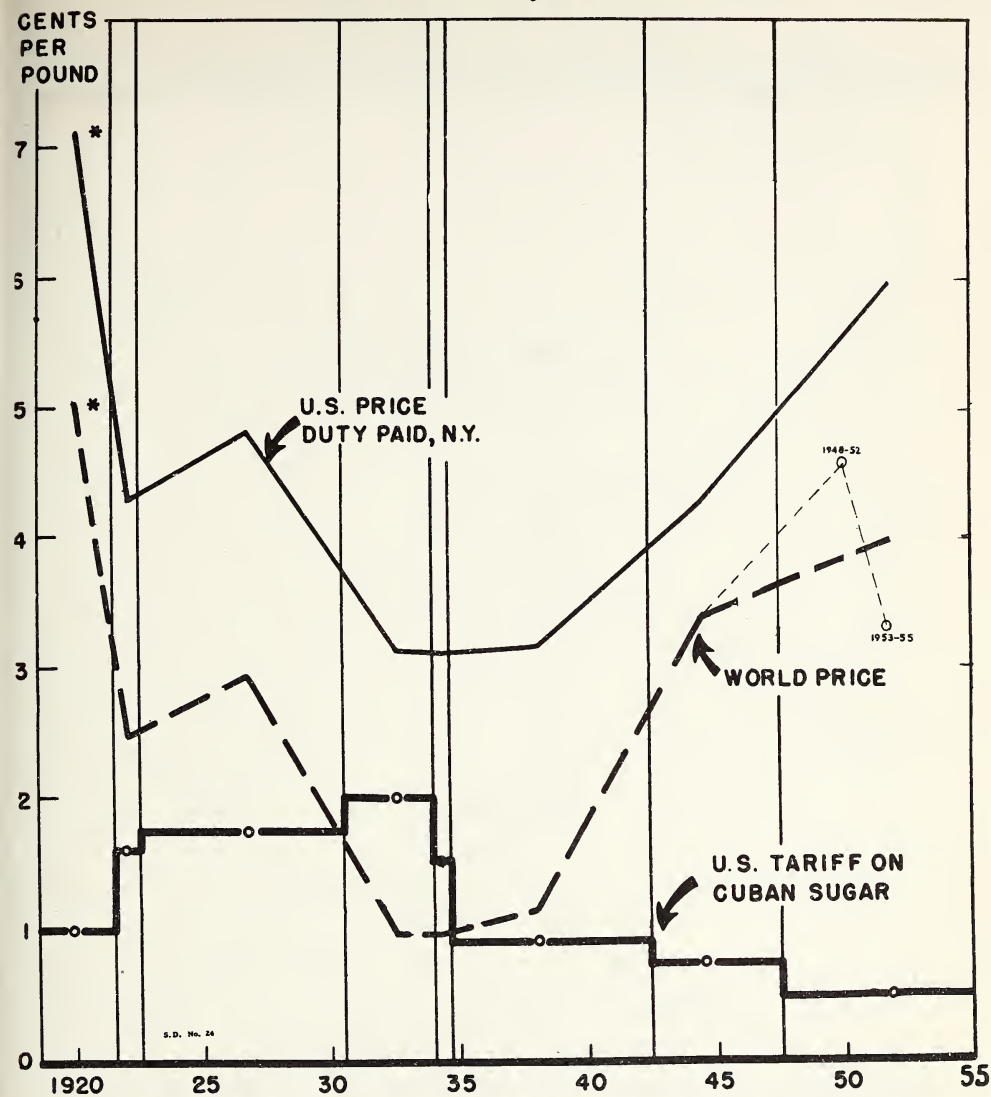
Little purpose would be served in attempting to anticipate the detailed amendments that may be made or proposed. I believe it is worth while, however, to consider some of the basic conditions that shaped thinking in the original negotiation of the Agreement and that probably will shape thinking during the coming negotiations.

From time to time we are asked why the United States should concern itself with the world sugar situation. In view of the billions of dollars this country has spent in recent years to help to improve the economies of foreign countries, it should be obvious that we would not wish to see serious economic difficulties develop in the sugar exporting countries. More important for our domestic sugar producing industry, however, this country has never been able for any extended period to insulate its domestic sugar market from the world market.

If we examine world and domestic prices of sugar for each of the tariff periods since the close of World War I, we find that despite the changes in tariff rates, the trends of price averages in the two markets were almost parallel. (See chart "Raw Sugar Prices by Tariff Periods Since January 1919.") Only if we look closely at recent experience do we observe any major deviation from this tendency. The present 50-cent tariff rate on Cuban sugar has been in effect since January 1 1948. For the five years 1948 through 1952, the world average price rose to 4.64 cents per pound in association with a rise in the domestic price, but the world price average for the past three years fell to 3.30 cents while the domestic price has remained comparatively stable at about 6 cents per pound. If we compare recent world and domestic prices by 2-year periods, a continuing relationship is found. It is fair to conclude, therefore, that neither tariffs nor the Sugar Act have served to divorce domestic prices from world prices for any extended period. Sugar producers in the United States have a pocketbook interest in the welfare of their foreign competitors.

During the war and early postwar period, the world sugar industry was prosperous. During the Korean fighting an inflationary movement broke out that was diffi-

RAW SUGAR PRICES BY TARIFF PERIODS
Since January 1919



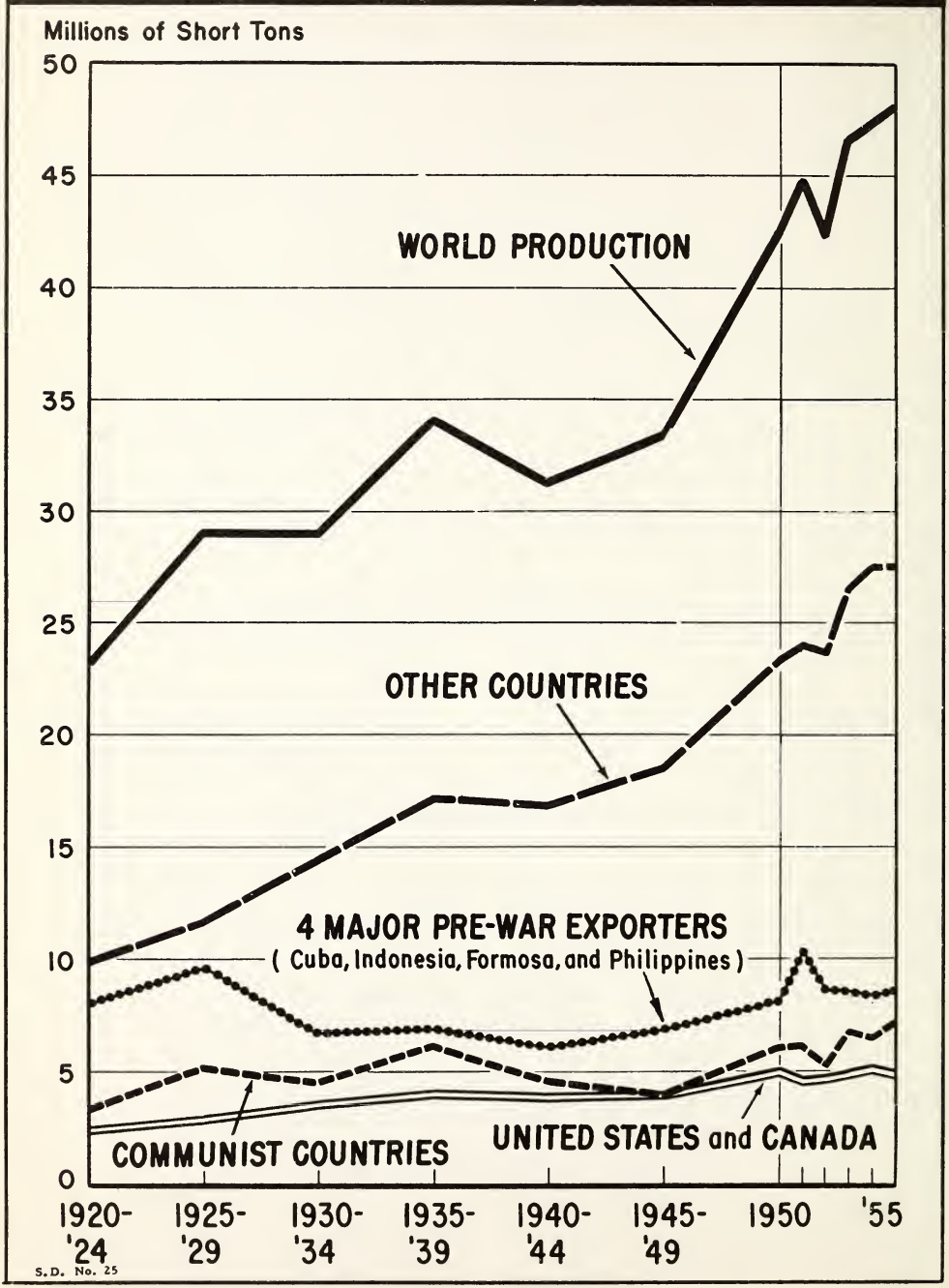
* To eliminate effect of inflationary period, the "Dance of the Millions" prices from January to August, inclusive, 1920 were omitted from these averages.

cult to control in 1950 and that got somewhat out of hand in the world market during 1951. As a result of these conditions, production expanded sharply in many of the non-warring areas and recovered quickly in most of the war torn areas.

In broad outline, the developments following World War II were similar to those following World War I. Because of the prospective sugar surplus situation, the Cuban Government proposed in 1948 that work be started on a new International Sugar Agreement designed to meet the problems facing the sugar mar-

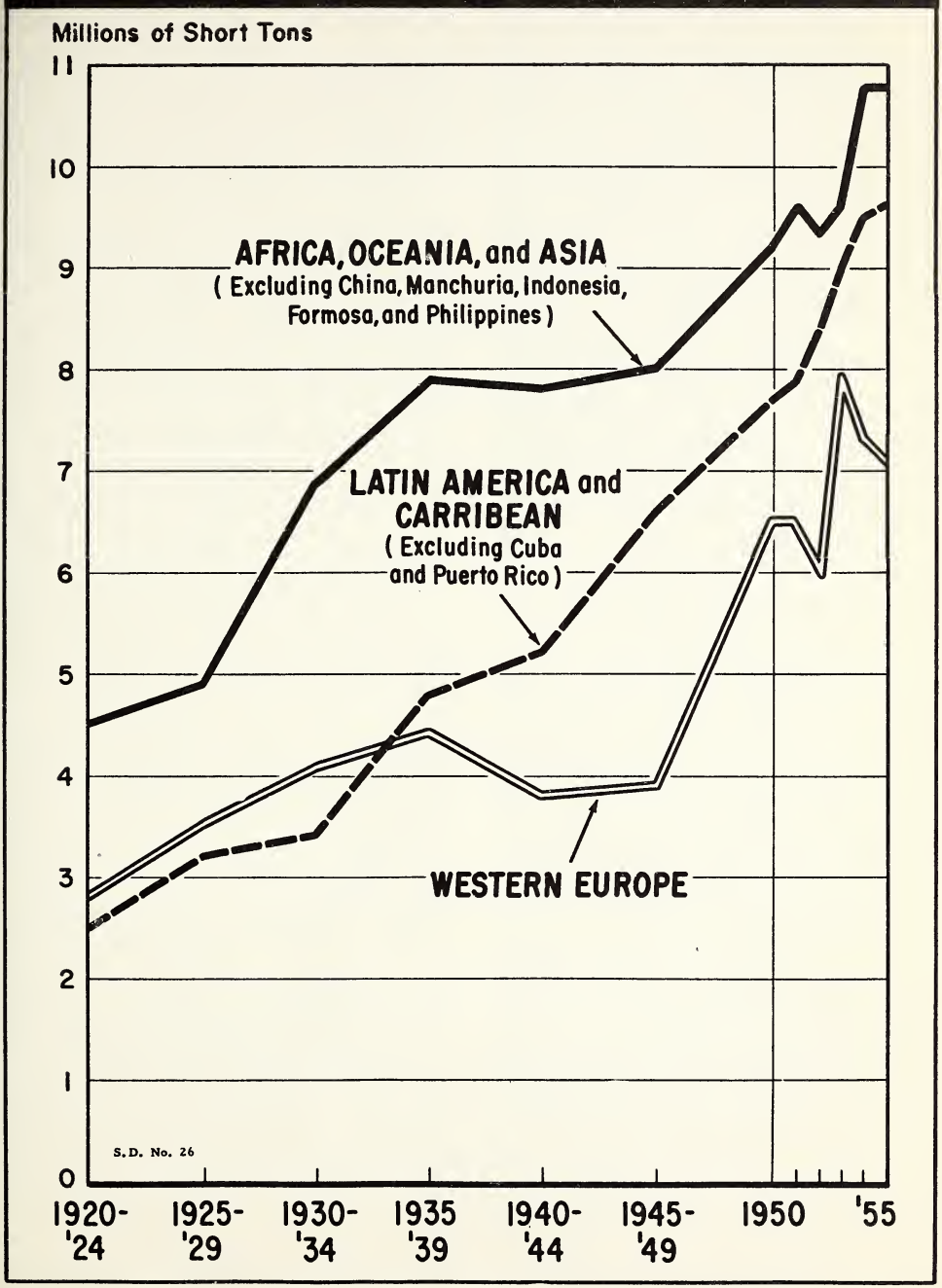
SUGAR PRODUCTION IN WORLD AND IN GROUPS OF COUNTRIES

(Centrifugal Sugar in Terms of Raw Value Plus Non-Centrifugal, Tel Quel)



SUGAR PRODUCTION IN AREAS OF MOST RAPID EXPANSION

(Centrifugal Sugar in Terms of Raw Value Plus Non-Centrifugal, Tel Quel)



ket after World War II. The first major meeting was held in London in the summer of 1950 at the time of the outbreak of hostilities in Korea. The Agreement, which was finally negotiated in the summer of 1953 to become effective on January 1, 1954, was therefore the better part of six years in the making. Admittedly, under different conditions, the work might have been concluded more quickly. However, I call attention to the time required to negotiate and ratify an international agreement to emphasize that if any such agreement is to be in effect in time to deal with an emergency, it must be completed before the emergency develops.

The International Sugar Agreement sets forth three general objectives — (1) to stabilize prices at equitable levels; (2) to increase the consumption of sugar; and (3) to maintain purchasing power in sugar exporting countries and permit the maintenance of fair living standards and wage rates in such areas. The third of these objectives was to be achieved through the attainment of the other two objectives.

I think we can deal rather quickly with the second objective, namely, that of increasing world sugar consumption. Surely, I need not undertake to sell this organization on the proposition that an increase in world sugar consumption is the most satisfactory method and certainly it is the most pleasant method of dealing with the world sugar surplus. Fortunately, world sugar consumption is increasing rapidly. Fortunately, also, work is in progress that should help to bring about further expansion in consumption. To date, however, the International Sugar Council has been noticeably laggard in contributing to this betterment in the world sugar situation.

The failure of the International Sugar Council to carry out any significant work to date in helping to bring about an increase in world sugar consumption is in part the result of certain inherent difficulties. The Council is neither a research agency nor a trade agency. Moreover, the impediments to increasing consumption are frequently low consumer incomes, taxation which places excessive burdens on sugar consumption, and other factors with which it may be difficult for an international organization of governments to deal. Nevertheless, the Council could serve as an information agency that would aid indirectly in bringing about a greater utilization of sugar.

While on the subject of increasing sugar consumption for the benefit of the world market, we must in fairness take an objective look at it ourselves. Under the bill that has passed the House, domestic producers will supply 50 percent of future increases in consumption and under the bill that passed the Senate, they will supply 55 percent of such increases. Therefore this conutry does not expect to continue in the future to give 100 percent of its expanding market to foreign producers as we have done in recent years. I wish to add, however, that I know of no other country that provides by law that any specified part of its requirements must be filled by imports from the world market. A number of them, such as Canada, are in fact increasing their imports of sugar. However, when the United States proposed that a share of the expanding consumption of each signatory country be turned over to the world market, it failed to find a single supporter among the importing countries.

As a price stabilizing mechanism, the International Sugar Agreement provides for export quotas to hold the surplus supplies in check until world consumption can catch up. It is important to note the adequacy of the coverage of the Agreement and the developments that have been taking place in the various producing, exporting, and importing countries.

The countries that are members of the International Sugar Agreement

account for 64 percent of the world's production and 60 percent of the world's consumption. They account for 66 percent of the net imports of the world and 81 percent of the net exports. These are impressive overall percentages, but they fail to show important details.

Since World War I, there have been major shifts in world sugar production. During the decade of the 1920's, the combined production of the four major exporting countries — Cuba, Formosa, Indonesia, and the Philippines—averaged close to 9 million tons, or one-third of the total world production of sugar. Accordingly, it was possible to deal rather effectively with the world sugar problem in the early 1930's by cutting production back in Cuba and Indonesia under the Chadbourne Plan and in the Philippines, along with other United States areas, under our Sugar Act. Last year, however, production in these same four exporting countries amounted to only 8.5 million tons, or less than 18 percent of the world total. Although production in these four countries was 1.8 million tons less in 1915 than it had been in 1951, world production was 3.2 million tons higher. World production is not so concentrated as it was in the 1920's.

For our present purposes, production in United States and Canada may be treated together. In both countries the trend of production is upward, but in both cases consumption has been rising more rapidly than production, and imports have been increasing.

Next we may look at the available data for sugar production in the Communist segment of the world from Poland and Czechoslovakia on the west to China and Manchuria on the east. Even though the data may be open to question, it is significant that they reflect no major upturn in production and that they indicate a comparatively low production per capita for these areas. In any event, since these countries have been significant importers of sugar during the past two years, they have not recently contributed to the world surplus.

To find the source of increasing world production in recent years, therefore, one must turn to countries outside these three groups. (See chart, "Sugar Production in World and in Groups of Countries.") The trend of sugar production in western Europe as a whole reflects primarily the war time decline and the post-war recovery. A careful look at the record shows, however, that the post-war expansion has overshot the prewar upward trend of production. In 1955, production in western Europe was 7.1 million tons, or practically twice the average for the decade of the 1920's. The reduction in European production during the past two years probably reflects in part the saturation of home markets and the reluctance to accept prices prevailing in world markets.

We also get an interesting pattern of production if we group together the countries of Africa, Asia, and Oceania, excluding the Communist countries of China and Manchuria and the older exporting countries of Formosa, Indonesia, and the Philippines. For this broad group of countries, production was expanding rapidly throughout the 1930's, then held stationary during the war years, but has been shooting upward sharply again since the war. In 1955, production in these areas amounted to 10.8 million tons, or 230 per cent of the average for the 1920's. This vast expanse of territories covers many areas that are progressing rapidly in their standard of living and in their consumption of sugar. In part, however, this increased production is for protected home or preferential markets, where the sugar displaces supplies that would otherwise be taken from the world market. The effect of these sharp increases in production depends upon the extent to which the increased production gives rise to consumption that would not other-

wise occur and upon the extent to which the increased production amounts to subsidized displacement of world market sugars.

Last, let us turn to Latin America and the Caribbean Area other than Cuba and Puerto Rico. In this area, production has been rising consistently ever since 1920. Last year, it totaled 9.6 million tons, or 337 percent of the average for the 1920's. Again the increase in production has been in part for growing local consumption, in part for shipment to preferential home markets and in part for sale on the free export market. (See chart, "Sugar Production in Areas of Most Rapid Expansion.")

If the above survey constitutes a fair summary of the facts, several conclusions follow:

(1) It is evident that a control program that could control production and exports of only a few countries would not provide sufficient leverage for controlling the world sugar surplus and supporting the world sugar market over any extended period of time.

(2) None of the international agreements or programs undertaken since World War I has cut production in areas that now account for close to 60 percent of world production.

(3) For their own welfare, producers in protected areas need to concern themselves with the long time welfare of unprotected producers who must sell in the world market.

(4) Care needs to be taken to make certain that the Agreement does not become an umbrella that established exporting countries are required to hold over new ones.

(5) The full weight of available information must be brought to bear on proposed programs for expanding sugar production. An adequate educational program covering current developments and long range prospects should be effective in preventing many unwise expansion programs.

(6) Similarly, every effort must be made to expand world consumption. Under no condition must the International Sugar Agreement become a mechanism for checking consumption.

(7) Since any revised International Sugar Agreement probably will provide only a modest degree of control over world production and exports, its price objectives must be modest and the Agreement must provide sufficient flexibility to permit all needed actions that will lead to a healthier world sugar economy.

Many difficulties are visible as we look ahead toward the negotiation of a revised International Sugar Agreement, but we also have behind us the record of bitter price experiences that led to the adoption of the Chadbourne Plan. We must convert the sorry past into ancient history—we must solve the problems that lie ahead.

———o———

UP FRONT

(Continued from page 172)

refining process can be materially reduced by adding a small portion of blackstrap molasses at the start of the refining operation.

In laboratory tests the use of blackstrap reduced the loss of rice oil in refining from 44 per cent to 23.3 per cent.

Rain Making

A meeting will be held in Alexandria, La. on March 14th to discuss legislation that might be needed to govern "rainmaking" projects. At least three groups in North Louisiana have used the services of so called "rain-makers" and we understand that they are satisfied with the results.

Representatives of the American Sugar Cane League will attend the Alexandria meeting to keep posted on developments in this fascinating field of scientific endeavor.

It is interesting to note that a Federal Commission appointed to investigate the possibilities of weather control has come to the conclusion that it has its possibilities.

IN THE FIELD

(Continued from page 173)

Denver Loupe, both of L.S.U., and cooperating County Agents has indicated that a total of 193,666 acres in the sugar belt are under a chemical weed control program.

Fields are now taking on a green color; it is hoped that the weather of March 22 through 29, 1955 does not recur.

—o—

IN WASHINGTON

(Continued from page 175)

on sugar will be held until after the Farm Bill has passed the Senate and gone to conference. House conferees on both bills will be identical.

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In This Issue

Up Front With The League 187
Exchange Holds Annual Meeting—Form Partnership—We "Goofed"—Isolate Amino Acids

In The Field With Lloyd L. Lauden 188
Use Scientific Facts

In Washington With Joe Ferris 189
No Sugar Bill Yet—Mainland Cane Processors, Please Note—Sailing April 13th

Borers Surviving The Winter And Prospects For The 1956 Infestation In Louisiana 190

Recommendations For The Chemical Control of the Sugarcane Borer In Louisiana In 1956 191

Annual Address of John B. Levert, President of the Louisiana Sugar Exchange, Inc. 193

Sugarcane Research Greenhouse is Completed at the Canal Point Field Station 194

Tractor Tires Used in the Sugarcane Area 195

Sugar Market Statistics Through March 27, 1956 196

Weekly Average Prices 196

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in the interests of the Domestic Sugar Cane Industry

THE SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Exchange Holds Annual Meeting

The Louisiana Sugar Exchange, Inc. held its Annual Meeting in New Orleans on March 28th and re-elected John B. Levert, who is President of Levert-St. John, Inc., to a second term as President. Other officers elected for another term were F. A. Graugnard, Jr., head of the St. James Sugar Cooperative, Inc., 1st Vice-President; Ernest A. Burguieres, Vice-President of the J. M. Burguieres Co., Ltd., 2nd Vice-President; Irving Legendre, General Manager of the Lafourche Sugar Co., 3rd Vice-President; Samuel H. Livaudais, Jr., partner in the firm of Sam H. Livaudais & Sons, New Orleans sugar brokerage firm, Secretary; and Louis P. LeBourgeois, Vice-President of Colonial Sugars Company, Treasurer. The writer was again elected the Executive Secretary of the Exchange.

Each year the Exchange elects half of its 26 member Board of Directors to a two year term. Elected this year were T. M. Barker of Lockport, La., Harold F. Saufley of New York City, Charles C. Savoie of Belle Rose, La., Bronier Thibaut of Napoleonville, La., and E. A. Burguieres, F. Evans Farwell, Robert Fraser, Edmond J. Garland, Charles F. Gibbins, Harry S. Hardin, Louis P. LeBourgeois, Samuel H. Livaudais, Jr., Edgar Murray, and G. M. Talmage, who all reside in New Orleans.

Other members of the twenty-six member Board who terms expire next year are P. L. Billeaud of Broussard, La., W. S. Chadwick of New Orleans, C. S. Churchill of Donaldsonville, La., Murphy J. Foster of Franklin, La., E. D. Gelzer of New Orleans, Leon Godchaux II of New Orleans, F. A. Graugnard, Jr. of St. James, La., Irving Legendre of Thibodaux, La., John B. Levert of New Orleans, Chas. A. Levy of New Orleans, J. J. Munson of Houma, La. and E. A. Rainold, Jr. of New Orleans.

The meeting was well attended and those present seemed to enjoy the President's annual address which we are printing on page 193 of this issue.

Form Partnership

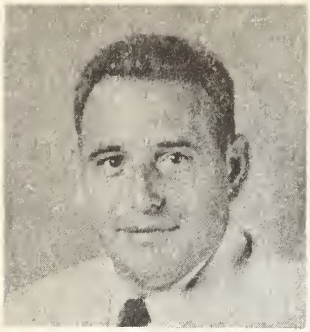
Mr. J. C. LeBourgeois, Jr. has advised us the LeBourgeois Brokerage Company is now a co-partnership and that his associates are Mrs. Herbert Wadsworth LeBourgeois, Miss Margaret Greve, and Mr. C. B. Claiborne, Jr. The old firm was the LeBourgeois Brokerage Co., Inc. and Louis P. LeBourgeois, now a Vice President of the Colonial Sugar Company, was the President.

The new partnership continues a sugar, molasses and syrup brokerage business that was established in New Orleans half a century ago by Messrs. J. C. LeBourgeois, Sr., Ruben S. Bush, and Herbert Wadsworth.

We "Goofed"

Every now and then we pull a boner in reporting happenings in this column but usually manage to wriggle out of our troubles by claiming that mistakes in spelling are "typographical errors", and by indignantly hanging the blame on the

(Continued on page 189)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

The expressions, "I tried that on one cut of cane", or "I tried that on my place and it didn't work at all" are ones which are often heard by those who travel the fields. Questions asked about what specifically was done often yield reasons, explanations and many times solutions to why certain practices do not work.

Many times questions even lead to prove that the practice actually paid off. In this instance the practice is usually compared with an unfair check.

An unfair check is often used in trying to evaluate the practice of dusting to control the sugar cane borer. A farmer will say that dusting did little or no good on his farm last year. The reason offered by the farmer for the statement is that one neighbor did not dust last year yet borers were not bad in his cane. It is a known fact that many times borers can be in one field and on one farm year after year and not bother to any great degree certain other surrounding fields or farms. It is also known that certain fields have heavier infestations of borers than other fields. Two neighboring farms can both have borers, one a heavy infestion that requires dusting, the other a very slight infestation that does not require dusting. In spite of a good dusting program, the farm with the initial heavy infestation may still have some borer damage done to the cane, but far less than that which would have occurred if the cane had not been dusted. The two neighboring farms could very easily end up the crop with about the same amount of borer damage and with about the same yield in tons of cane per acre. Had not the farm with the heavy initial infestation been dusted the damage would have been much greater, and therefore yields would have been reduced. There are also many other factors of production that could enter that would influence yield on either farm.

Use Scientific Facts

It must also be pointed out that cane borers are like other forms of life, they like certain cane varieties better than others. Cane borers prefer C. P. 44-101 and C. P. 36-13 over C. P. 44-155, C. P. 43-47 and others.

It is also very important that recommendations be followed when dusting for borers. To apply dust a certain number of times per year is not all there is to a dusting program. Dosage rates, the right materials to use, timing for each generation, and the manner and coverage of each dusting is very important.

Field experiments carried on by L.S.U. and the U.S.D.A. on farms throughout the sugar belt have proved that dusting pays off where the infestation warrants dusting. These experiments are not one block of cane dusted one year compared with one block not dusted. The experiments have been conducted for many years and have been carefully planned using four replications at each location to make as certain as is humanly possible that all significant differences in yield between treatments and checks are true differences that exist because of the treatments and not because of something else done to the cane.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

No Sugar Bill—Yet

Congress began its Easter holiday March 29th, without taking any final action on the Sugar Bill. Although the Bill has been passed by both Houses, the Senate made some changes in the House Bill and therefore it must go to conference. Conferees for the House are Representatives Cooley, Poage, Gathings and Abernethy, Democrats; Hope, Andresen and Hill, Republicans. The Senate Committee consists of Senators Byrd, George and Kerr, Democrats; Milliken and Martin, Republicans.

The Sugar Bill was passed by the Senate February 8, 1956 and the conference committee from that body was appointed the same day, but for one reason after another Representative Cooley did not ask for the appointment of a conference committee to represent the House until March 15th. Every effort by sugar Senators and Congressmen to arrange an early meeting of the conferees to iron out the relatively minor differences in the bills has failed. Mr. Cooley has made no commitment to hold a conference, but it is believed that he will name a date for such a meeting when Congress reconvenes on April 9th.

Mainland Cane Processors, Please Note—

Word comes from the U. S. Beet Sugar Association that beet processors have agreed on a formula for allocating marketing allotments this year. The agreement was reached in Dallas, Texas, March 12, 1956, when all beet processors met informally with representatives of the Sugar Division.

Sailing, April 13th

The first ship-load of Louisiana over-quota sugar is scheduled to leave New Orleans for far eastern ports April 13th. This shipment of 8,000 to 10,000 tons is refined sugar.

Another ship is tentatively scheduled to sail from New Orleans during the week of April 16th, with a cargo of raw sugar for refining in South Korea.

According to officials of the Sugar Division all of the over-quota Louisiana sugar purchased by the government has been requisitioned by the International Cooperative Administration and shipment will be made as rapidly as ships can be chartered. It is understood that the government hopes to move all of its sugar by mid-July.

UP FRONT

(Continued from page 187)

printer for omissions and things like that. On March 1st, however, we were caught red-handed.

In listing those present at the meeting of the Farm Machinery Advisory Committee we omitted the names of Eugene H. Graugnard and Clay Terry, two very important members of this very important committee. This time the printer had our original copy to prove it wasn't his fault! So there is nothing to do but admit it. We "goofed."

Isolate Amino Acids

The following paragraphs have

(Continued on page 197)

BORERS SURVIVING THE WINTER AND PROSPECTS FOR THE 1956 INFESTATION IN LOUISIANA

By W. E. Haley, W. J. McCormick, and L. J. Charpentier, Entomology Research Branch, Agricultural Research Service, U. S. Department of Agriculture, and A. L. Dugas and E. J. Concienne, Louisiana Agricultural Experiment Station

The number of sugarcane borers surviving the winter in Louisiana is determined each year by surveys made during the latter part of February and first part of March. This information is necessary to estimate the probable infestation and control needs during the coming spring and summer. These surveys are made cooperatively by the USDA Sugarcane Insect Laboratory at Houma and the Louisiana Agricultural Experiment Station at Baton Rouge. This year's survey, completed on March 13, showed the population sufficiently heavy and widespread to cause a destructive infestation.

Examinations were made in the cane trash of harvested fields on ten plantations evenly distributed over the sugar-producing area of the State. Ten representative fields were examined on each plantation, and four random samples of 10 feet of row were examined in each field. Averages of 419 live borers per acre were found at Alma Plantation, 708 at Billeaud, 600 at Catherine, 364 at Elm Hall, 254 at Erath, 1,092 at Oaklawn, 218 at Orange Grove, 926 at Raceland, 998 at Reserve, and 672 at Southdown, the combined average being 625. In cane trash an infestation of 0 to 5 borers is considered non-economic, 5 to 25 very light, 25 to 100 light, 100 to 200 moderate, 200 to 300 severe, and 300 or more very severe. Total results of the 1956 survey cannot be compared with those of previous surveys because of an improved method of selecting fields for examination this year. However, a number of similar fields have been examined in all years and they show the winter carryover in 1956 to be higher than normal.

Although most examinations were made in cane trash of fields harvested last fall, some were made in young shoots from summer-planted cane. Two fields of such cane were surveyed in the Houma area. Five random samples of 10 feet of row each were examined in each field. The average number of borers per acre was 1,450 as compared with 1,390 for the 11-year period 1944-55.

The above-average winter carryover in 1956 is believed to be due principally to the large number of borers in cane tops left in the field after harvest. It will be remembered that late freezes in March 1955 retarded the infestation in last year's crop. As a result, much of the later infestation was in the upper part of the stalks. To make matters worse, many of the growers topped their cane low because of poor sucrose, a practice that always leaves large numbers of borers in the field. Although there were several days of freezing weather, temperatures never went below 20 degrees, which seems to be the critical point in winter survival of the borer.

The number of overwintering borers indicates that infestation by the first-generation of the insect will be above average. The carryover is believed to be scattered over more acreage than usual. Growers should be on the watch for developing infestations and be prepared to dust with ryania or cryolite where necessary.

RECOMMENDATIONS FOR THE CHEMICAL CONTROL OF THE SUGARCANE BORER IN LOUISIANA IN 1956

(By A. L. Dugas, Entomologist, Louisiana Agricultural Experiment Station)

The following recommendations for control of the sugarcane borer by dusting with cryolite or ryania are based on many years research by both the Louisiana Agricultural Experiment Station and the Federal Station at Houma. Chemical control is recommended only where the proper checking of fields have revealed a borer infestation sufficiently heavy to justify the expenditure. Other control practices, especially those which aid in destroying overwintering populations of borers, should not be neglected with the idea of depending entirely upon insecticides. Such cultural practices properly applied may eliminate the need of dusting in some instances or at least reduce the acreage requiring it. By lowering the population to a more normal one may also insure more effective control where chemicals are used.

I. *General Recommendations:*

1. In years when a normal borer infestation exists, on a large farm or where community cooperation prevails, an overall control program is preferable and involves starting with first generation dusting of all acreage found to be sufficiently infested. Additional infestations developing later should be controlled by second and sometimes third generation dusting. However, *under the prevailing conditions of a heavy, widespread infestation, first generation control is not advisable.* The program should then start with the second generation.

2. For treating relatively small parts of large infested areas or a small farm surrounded by infested cane, first generation control is not recommended, because of the possibilities of reinfestation by later generations from the nearby untreated cane and/or corn.

3. Although these recommendations apply to sugarcane, corn should also be dusted for borer control where the infestation and growth justifies it.

Only ryania can be used on corn since cryolite may result in serious plant injury.

II. *First generation control:*

1. Minimum borer infestations requiring dusting.

a. Egg counts. Five egg masses per man-hour.

b. Leaf signs. A minimum of 10 stools per 200 row feet or 360 per acre showing leaf signs. First, use egg counts which should reveal the heavier infested areas, then resort to leaf sign counts. Egg counts may be entirely impractical in many instances.

2. Insecticides, dosage and applications.

a. Use either undiluted cryolite (synethetic or natural) or 40 per cent ryania at the rate of 10 to 12 pounds per acre per application. The 70 per cent cryolite would have to be used at the rate of 13 to 15 pounds. (Build-up of the yellow sugarcane aphid is not a problem with first generation dusting).

b. Make 4 weekly applications, unless proper checking indicates more or fewer are needed.

III. *Second generation control:*

1. Minimum borer infestations requiring dusting.

a. Deadhearts—A minimum of 14 per 200 row feet or 500 per acre.

b. Leaf signs — 10 stools per 200 row feet or 350 stools per acre showing leaf signs (can be used in small cane only).

c. Leaf sheath feeding — 10 stools per 200 row feet or 360 stools per acre showing leaf sheath feeding. Begin the selec-

(Continued on next page)

tion of fields on the basis of deadhearts, and then follow, especially in adjoining fields, with egg mass, leaf sign, and leaf sheath feeding counts.

2. Insecticides, dosage and applications.

a. Use either 40 per cent ryania or undiluted cryolite at the rate of 12 to 15 pounds per acre per application or 70 per cent cryolite at 15 to 19 pounds per acre per application (Experimental data show that ryania does better than cryolite against 2nd and 3rd generations and will not build-up the yellow sugarcane aphid).

b. Make 4 weekly applications, unless field conditions indicate more or fewer are needed.

IV. *Third generation control:*

1. Minimum borer infestations requiring dusting.

a. Leaf sign — numerous leaf signs generally, especially in stunted cane of subnormal growth.

b. Leaf sheath feeding — 10 stools per 200 row feet or 360 per acre showing leaf sheath feeding.

2. Insecticide, dosage, and applications.

a. Use 40 per cent Ryania at the rate of 12 to 15 pounds per acre per application. Cryolite is not recommended.

b. Make 4 weekly applications. Plant cane short in growth is most likely to be heavily damaged by third generation borers.

V. *The following are important for successful control of either generation:*

1. Make proper field examinations to determine where and when to dust. This necessitates continuous weekly checking.

2. Start dusting with a general hatching of small borers, but before the larvae begin boring into the plant.

3. As a general rule, four applications at weekly intervals are necessary; however, proper checking may reveal the need of only three or a fifth in some individual fields.

4. Apply the dusts at the recommended dosages while the air is quiet and the plants are moist or wet with dew, which is usually between 6 p.m. and 9 a.m. Evening dusting after the wind subsides is satisfactory. It is important that the application rates be raised to the higher limits specified for each generation where the borer infestation is heavy or cane growth is unusually dense.

5. Use an airplane for treating large areas. The width of swath should not exceed 36 feet, and the plane should be flown at the proper height, which will vary with atmospheric conditions, to insure proper distribution of the dust.

6. A power ground-dusting machine or rotary hand gun may be used for treating smaller areas. About 7 acres of cane can be treated per hour with a 3-row ground machine and about 1 acre per hour with a hand gun. Dusting more than 300 acres on any one plantation by ground machine is impractical.

7. On ground machines, two nozzles to the row give some insurance against incomplete coverage through clogging or misplacement of nozzles.

VI. *Sprays:*

Although sprays have shown some promise, they are not recommended because of the increased cost of application.

VII. *Other insecticides:*

Insecticides other than cryolite or Ryania are not recommended because they have not given comparable control, and may even account for an increase in borer infestation because of their toxic effect upon natural enemies of the borer. The 100 per cent ryania at low dosage rates is not recommended, since there is not sufficient data to support such a recommendation.

ANNUAL ADDRESS OF JOHN B. LEVERT, PRESIDENT OF THE LOUISIANA SUGAR EXCHANGE, INC.

Gentlemen:

One year ago you did me the honor of electing me President of the Louisiana Sugar Exchange and I want to take this opportunity to express my appreciation to you for your confidence in me, and also to express the hope that nothing has happened during the year ending today that has in any way shaken this confidence.

Personally, I feel that we have had a fairly good year and that we have at least held our own during these rather complex times when rising costs of production, coupled with acreage restrictions for our farmers and marketing restrictions for our mills, are making life miserable for every one of us.

In this connection it is rather alarming to note that at least two Louisiana sugar mills, that have taken part in the grinding campaign for many, many years, will definitely not operate during the next grinding, and that there is a distinct possibility three other mills will also decide to call it quits this year. This brings us to the subject of the dues paid by the mills to support the Exchange.

Last year a special committee was appointed to work out a new system of evaluating the mill dues in the Exchange and this Committee recommended to the Board of Directors that the mills be bracketed according to the amount of cane ground, with mills grinding up to 50,000 tons being assessed a minimum of $50.00 and the dues increasing $50.00 in each 50,000 ton bracket above the original 50,000 tons. The Committee also recommended that dues for the refiners be $400.00, or the mill dues, whichever is greater.

At a meeting of the Board held in Thibodaux on April 27th this bracket system and the $400.00 minimum for the refiners was unanimously adopted.

The purpose of the new system of dues was, of course, to provide sufficient capital for the proper operation of the Exchange. This it did, but by the narrowest of margins. We adopted a budget for this year totaling $14,294.68 and collected $14,500.00.

From this it will be seen that the mill bracket system worked satisfactorily this year and will probably continue to be a satisfactory method of arriving at the amount of dues to be paid by the individual mills, provided the deficit created by the mills that go out of business is made up by increased grindings at the remaining mills.

The Exchange had the pleasure this year of being one of the cosponsors of an appreciation luncheon, arranged by the Chamber of Commerce of New Orleans, to honor the Louisiana Congressional Delegation. Participation in an affair of this kind was a little out of the ordinary for our organization but your officers felt that the very excellent work of our Senators and Congressmen made this an out of the ordinary affair.

I am happy to state that the luncheon was a huge success and that we are glad to have had a small part in helping to make it so.

The big job of the Exchange is, of course, the issuing of quotations on raw sugar and blackstrap molasses. This task is in the very capable hands of our Raw Sugar Committee, of which Mr. Charles A. Levy is the Chairman, and our Blackstrap Molasses Quotation Committee which is headed by Mr. Leon Godchaux II.

The pricing period for Blackstrap ended this year on February 23rd and I want to take this opportunity to thank every member of this Committee for their good work through-

(Continued on page 198)

SUGARCANE RESEARCH GREENHOUSE IS COMPLETED AT THE CANAL POINT FIELD STATION

A 25 x 35 - foot greenhouse, with walls approximately 20 feet high, has been completed at the U. S. Sugar Crops Field Station, Canal Point, Florida, to facilitate research work in sugarcane breeding at that station.

The greenhouse is an aluminum and steel-framed structure erected on a specially designed concrete foundation, and it is rigidly braced for protection against tropical hurricanes. Electrically controlled automatic vents and hot-water heating system are used to maintain the temperature between 80 and 85 degrees Fahrenheit day and night during the season when adequate floral development of sugarcane plants is so important to the breeding program.

Research investigations have revealed that most varieties of sugarcane require a temperature between 80 and 85 degrees F. during the season when sugarcane is flowering, to develop good pollen for use in breeding for the production of new and better varieties. The required temperature for good pollen development is somewhat higher than the prevailing outside temperature at Canal Point during the sugarcane breeding season.

The new greenhouse, erected at a cost of approximately $10,000, provides a significant improvement in facilities available at Canal Point for improving pollen development and for the production of hybrid sugarcane seed, according to Bascom A. Belcher, Superintendent of the Station. He considers it the most outstanding addition to the station's research facilities since 1937 when the large photoperiod building was constructed. Recognizing the importance of this additional facility in the cooperative breeding program, the American Sugar Cane League made possible the completion of the heating system by supplementing limited USDA funds available for the project.

TRACTOR TIRES USED IN THE SUGARCANE AREA

Presented at the Annual Meeting of the American Society of Sugar Cane Technologists held in Houma, La. on February 28, 1956

Robert J. Anderson

The increased cost of tires used on tractors in the sugar area has been alarming. Not only has the original cost of these tires increased steadily for the past five years, but the service life is much less than during the period previous to 1950.

The following are some comparative figures of tire cost and tire life for different periods.

13-36 (11.26x36), Hi-Lug tractor tire.	1946-49	1950-55
Cost	$107.00	$188.00
Usable tractor Service	3-4 yrs.	2-2½ yrs.
Tires available for use on wagons or other implements after lugs worn	60%	10%
Cost of wagon or implement tire. 9.00x36 or 11-36. Cost	$62.00	$100.00
Approximate percentage of worn tires used on wagons or implements	60%	10%
Approximate life of worn tractor tires when converted to wagon or implement use	3-5 yrs.	3 yrs.

Note: Some traceor tires manufactured previous to 1947 are still being used on wagons and implements.

In addition to the loss incurred by these tires failing prematurely, and not lasting long enough on the tractor to wear the lugs to a point that they are no longer efficient for tractor use, these tires are not available as replacement tires on wagons or implements and this necessitates the purchase of new tires for this use. Worn tractor tires were well adapted to wagon and implement use, as they were heavier, had greater carrying capacity and resisted cuts and bruises because of their heavy rubber covering. I estimate the cost of tractor tire operation now is about 250% higher than it was in the 1946-49 period.

Tire Life:

Life of the tractor tires used in the cultivation of sugarcane has been reduced by almost 50% in the past five years. The life of a cane field tractor tire has been reduced from 3-4 years of efficient service during the period previous to 1950, to a low 2 - 2½ years of service during the period after 1950. This short life has not been caused by rapid tread wear, but by premature failure of the carcass or body of the tire. This condition has been caused by lack of care, or improper mounting, overloads, heavier implements and attachments, tires not designed for certain operations, supervisory personnel not educated to give proper instructions for care and maintenance under different operation conditions and carelessness.

There are some tires that were delivered on new tractors as original equipment in 1950, which are still in serviceable condition. I have also observed many tires that have given four or more years satisfactory service on tractors. I see no reason why we cannot increase the life of our tractor tires by a program of supervision, maintenance and education. This part of our tractor maintenance has been sadly neglected, and this neglect has been very costly.

Field Operations:

There has been a number of changes in field operations in the past few years. These changes have had some effect on tire life. In most cases they have been ignored, and no effort made to meet them.

The following are some changes that have affected tire life:

1. Heavier implements requiring more strain on the lugs of tires in pulling them.

(Continued on page 197)

SUGAR MARKET STATISTICS THROUGH MAR. 27, 1956

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	5.98	5.90	5.90
QUOTA RAWS DELIVERED NEW ORLEANS	5.99	5.86	5.86
WORLD SPOT RAWS (In Cuba)	3.32	3.30	3.30

SUGAR FUTURES No. 6
(Closing Bid Prices)

	May	July	Sept.
Today	5.49	5.54	5.59
1 Month Ago	5.42	5.51	5.54
1 Year Ago	5.45	5.59	5.64

OFFSHORE RECEIPTS AT NEW ORLEANS
(Long Tons, 2,240 lbs.)

	To Date 1956	Same Date 1955
American	88,309 tons	91,883 tons
Godchaux	46,971 tons	55,775 tons
Colonial	45,463 tons	55,425 tons
Henderson	26,672 tons	18,711 tons
Southdown	None	None
South Coast	11,412 tons	2,267 tons
Supreme	22,438 tons	9,408 tons
Totals	241,265 tons	233,469 tons

Weekly Average Prices

The weekly average prices issued by the Louisiana Sugar Exchange since the start of the 1955-56 pricing period have been as follows:

Week ending October 13, 1955
Raws 6.00, Blackstrap 9.75

Week ending October 20, 1955
Raws 5.99, Blackstrap 9.75

Week ending October 27, 1955
Raws 5.96, Blackstrap 9.75

Week ending November 3, 1955
Raws 5.95, Blackstrap 9.845

Week ending November 10, 1955
Raws 5.86, Blackstrap 10.00

Week ending November 17, 1955
Raws 5.85, Blackstrap 10.00

Week ending November 24, 1955
Raws 5.91, Blackstrap 10.00

Week ending December 1, 1955
Raws 5.94, Blackstrap 10.00

Week ending December 8, 1955
Raws 5.81, Blackstrap 10.15

Week ending December 15, 1955
Raws 5.77, Blackstrap 10.25

Week ending December 22, 1955
Raws 5.79, Blackstrap 10.40

Week ending December 29, 1955
Raws 5.80, Blackstrap 10.50

Week ending January 5, 1956
Raws 5.80, Blackstrap 11.00

Week ending January 12, 1956
Raws 5.81, Blackstrap 11.00

Week ending January 19, 1956
Raws 5.86, Blackstrap 11.20

Week ending January 26, 1956
Raws 5.87, Blackstrap 12.00

Week ending February 2, 1956
Raws 5.84, Blackstrap 12.50

Week ending February 9, 1956
Raws 5.80, Blackstrap 12.50

Week ending February 16, 1956
Raws 5.85, Blackstrap 12.50

Week ending February 23, 1956
Raws 5.87, Blackstrap 12.50

Week ending March 1, 1956
Raws 5.88

Week ending March 8, 1956
Raws 5.95

Week ending March 15, 1956
Raws 5.97

Week ending March 22, 1956
Raws 5.91

Season's Average for Raws through March 22, 1956—5.877.

UP FRONT

(Continued from Page 189)

been taken from a news release issued on March 28th by the Southern Utilization Research Branch of the U.S.D.A.

"Three amino acids not previously reported as components of sugar cane juice have been added to the list of these acids by research workers at the New Orleans, La., laboratory of the Southern Utilization Research Branch of the Agricultural Research Service, U.S.D.A. These acids are threonine, proline, and phenylalanine. Threonine had been previously reported in sugar cane molasses, but this is the initial identification of this amino acid in sugar cane juice."

"E. J. Roberts and L. F. Martin, who carried out the investigations at the Southern Laboratory, used a method which enabled them to make quantitative determinations of amino acids from complex mixtures. In adapting the method to sugar cane juice, a sample of whole raw juice solids was applied directly to a column of ion exchange resins. The method is more accurate than those previously used, and permits determination of the quantities of amino acids present in the juice. This information will be of value in explaining the complex changes produced by liming, and will aid in efforts to improve clarification methods."

———o———

TRACTOR TIRES

(Continued from page 195)

2. Fertilizer tanks mounted on tractors.

3. Longer distances travelled to and from work area.

4. Longer hauls at harvesting time.

5. The habit of operators of speeding tractors while going to and from work area. In most cases this is in excess of recommended speeds and is exceedingly dangerous when ammonia tanks are mounted on tractors.

6. The strain placed on tires operated under these conditions with heavy loads is much greater than any that they have to sustain in ordinary field operations.

Lug Design:

Previous to 1948 the manufacturers of hi-lug tires used different lug designs. These lugs were shorter, rounded at the edges, and the tread cross section was not as wide at the point of ground contact as their present tires. While those tires had less traction, they gave much longer service. Since then there has been a radical change in lug designs. The lugs are higher, more numerous, sharper, and the ground contact area has been greatly increased. This has improved the traction of these tires, but has also created a condition, which if not watched very closely, can be the cause of considerable trouble, due to the greatly increased ground contact area. This tire has a very high resistance to side slip and pivoting, and under certain conditions this causes an abnormal strain to be placed on the side walls and lugs. When the tractor or implement equipped with this type tire is forced to make a very short turn, there is a noticeable buckling or twisting in the sidewall, due to the resistance offered by the lugs to pivoting. If the buckling and twisting continues, the sidewall of the tire will be weakened, causing breaks to appear in the fabric on the inside of the tire, and the tire will fail prematurely. It is possible that the high resistance of the lugs to pivoting, may be the cause of lug separation that I have noticed in so many tires.

Care and Maintenance:

Supervisory personnel give very little attention to the care of tires. Operating personnel are not instructed properly in tire care and

(Continued on next page)

maintenance. Many tires are injured when they are installed or removed. New tires are installed on rims that are covered with rust. There is no regular check of air pressure. Personnel have not been impressed with the fact that different ply tires require different air pressure, and that the pressure varies with the weight of the implement carried on the tractor. The individuals responsible for the care and operation of this hi-lug tire should understand that this tire is a special tire, expensive, and due to its construction a few pounds variance in air pressure can damage it in just a few hours of operation.

There are many recommendations that could be made in regard to the proper care and maintenance of tires. To do this would require instructions in book length proportions, and would have to be changed to meet the requirements of different plantations. The above listed are the most important, and the ones that require the most attention.

———o———

MR. LEVERT

(Continued from page 193)

out the season. As usual, they had their troubles, especially during the early stages of the selling season, but it is significant to note that their season's average price of 10.77975 cents a gallon was accepted by the Sugar Division without question. I congratulate the Committee on a job well done under what were, at times, rather trying circumstances.

Usually at the Annual Meeting the President is also able to speak in the past tense about the pricing period for cane and sugar. This year, however, the end of the period is not until April 26th, which means that our Raw Sugar Quotation Committee is still hard at work and has four more weeks ahead of it before all the prices are posted and the Season's Average Price is announced.

Twenty-nine weeks is a long time to ask any Committee to work and I certainly want to express my special thanks to our Raw Sugar Quotation Committee for the good work they have done and, I am sure, will continue to do for the Louisiana Sugar Industry.

Before changing the subject I want to again emphasize the fact that the quotation committees are the core of the Exchange. The men who serve on these committees perform their rather thankless tasks as a public service to our Industry. Without them the whole Louisiana system of cane payments and sugar settlements could not function. Again let me say that they are very important to all of us and we are grateful to them for their unselfish service.

The legislative developments of interest during the past twelve months were the decisions by the Sugar Division to purchase approximately 59,000 tons of over-quota Louisiana raw sugar for export, and the passage of the Sugar Bill by the House and the Senate.

We are hopeful that the new sugar legislation will become a law this year and that we will be able to increase our production a little in the years that lie ahead.

We believe that we speak for the Industry when we say that we are grateful for the partial relief afforded by the 59,000 ton Government sugar purchase.

In conclusion, I want to express my deep appreciation for the splendid co-operation of all the members who have come forward without hesitation, whenever called upon, and, in particular, Mr. Andrew Dykers, our more than capable Manager, and his very efficient secretary, Mrs. Anthony Catogno, who operate our Exchange smoothly and efficiently. Without these combined efforts, your Exchange would be one in name only.

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In This Issue

In The Field With Lloyd L. Lauden 203
Things To Come

In Washington With Joe Ferris 204
Maybe, A Conference On Sugar—U.S.D.A. Announces New Policy For Fruit, Sugar Ratios—Puerto Rican Marketing Allotment Hearing—Free Trade.

The Value of Fresher Sugarcane To Both Growers and Processors 205

1955-56 Production Report 213

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in the interests of the Domestic Sugar Cane Industry

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Lloyd L. Lauden, Agronomist and Field Representative

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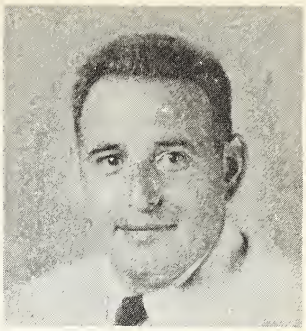
IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden



Things to Come

Research conducted by the U.S. D.A. and L.S.U. has actually pointed the way to recovery following the near downfall of the Louisiana Sugar Industry in the middle 20s. What would have happened to the industry without new varieties to replace those that fell completely to Mosaic and Red Rot is anybody's guess.

Funds available at the time and the urgency of developing new varieties did not allow much time or money for all the research work that needed to be done. The more important work had to come first. Over the years since then, as time and money became available, many experiments have been conducted which have directly benefitted the sugar cane farmer. Research on high rates of fertilizer, disease control, weed control, borer and other pest control, crowning or turtle-backing, together with the constant production of new varieties are examples of what research has done for the sugarcane farmer.

Because many of the old and more pressing problems have either been solved or brought under control, the scientists are now considering other research that can be of important benefit to the industry. Some of the studies that are being considered by the scientists of the U.S.D.A. and L.S.U. are: chemical defoliants, crop-logging, growth substances and inhibitors, old and new cultural practices, freezing and storage of pollen, irradiation of cane, and irrigation.

A chemical that could be sprayed on cane prior to the harvest that would cause the leaves to fall from the stalk would do much to reduce the trash content of cane. Such a chemical is being used in the cotton fields. Possible in cane? Yes.

Crop-logging is a technique or system used in Hawaii to determine by tissue analyses fertilizer requirements and recommendations for cane. A study of this in Louisiana could be very helpful to the scientist in making fertilizer recommendations.

Growth stimulants are not new to the sugar industry, many feel that the chemicals used in the control of Johnson grass are doing something else other than just killing weeds. A study of stimulants and weed killers could indicate that certain chemicals would result in an increased yield even though there were no weeds to destroy in the cane. A chemical that could possibly be used to retard growth in order to hasten maturity would have been helpful last October.

Cultural studies could shed light on many questions. Ask the following questions of two individuals and the chances are you will get two different answers. What is the proper width to off-bar? Does the width of the bar-furrow make any difference? Is there any advantage to leaving cane on the bar-furrow for a certain period of time? If so, how long? Is the stubble digger a good tool? How many times should it be used in the spring? Now that drainage is much better, can cane be planted at a lower depth? How deep should plant cane be covered? Can stubble cane be worked in such

(Continued on page 214)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Maybe—a Conference on Sugar Bill

Representative Harold Cooley, head of the House conference committee on H. R. 7030, the Sugar Bill, so far has successfully side-stepped everytime his sugar-minded colleagues attempt to have a meeting of the House and Senate conferees on the bill.

Mr. Cooley is reported to have told one of his colleagues that as soon as the General Farm Bill was disposed of he intended to make a few campaign speeches in his district in North Carolina, where he is in a close race for reelection, and upon his return to Washington probably would arrange a conference on sugar.

Senator Harry Byrd of Virginia, Chairman of the Senate conference committee on sugar, is convalescing satisfactorily from a recent surgical operation and is expected to return to his office sometime during the week of April 16th. It is understood that as soon as Senator Byrd is able to resume his duties, an effort will be made to arrange a conference on the Sugar Bill.

U.S.D.A. Announces New Policy for Fruit-Sugar Ratios

The Department of Agriculture has adopted a new procedure for certifying fruit-sugar ratios of frozen fruits and berries. The change is being made because of misinterpretation heretofore by some members of the trade of information on inspection certificates relative to the fruit-sugar ratios.

Beginning about May 1st inspection certificates will clearly indicate the fruit-sugar ratio, provided that a U.S.D.A. inspector is present during the packing operations and it is possible and practical to make suitable checks on the proportion of fruit and sugar, and provided that the product is labeled or represented as being of a specified fruit-sugar ratio.

If circumstances or conditions do not permit actual determination of fruit-sugar ratio, or if a U.S.D.A. inspector is not present during packing operations the inspection certificate will indicate that such determination was not made.

The determination and certification of fruit-sugar ratio will aid the processor in maintaining proper controls during packing operations and will facilitate sales to buyers and users who need this information.

Puerto Rican Marketing Allotment Hearing

The U.S.D.A. has scheduled a hearing on the 1956-57 Puerto Rican Sugar Cane marketing for April 25th. According to the Department of Agriculture, restriction of markings from the 1956-57 Puerto Rican sugar cane crop appears to be necessary in order to keep supplies in line with marketing quotas and carry-over requirements.

Free Trade

Considerable concern has been expressed by various industries, including domestic sugar producers over H. R. 5550 which would allow President Eisenhower to accept for

(Continued on page 214)

THE VALUE OF FRESHER SUGARCANE TO BOTH GROWERS AND PROCESSORS

By W. F. Guilbeau, E. E. Coll, and L. F. Martin, Southern Regional Research Laboratory, New Orleans, Louisiana*

Fresh, hand-cleaned sugarcane that was ground within 24 hours after cutting was shown to be worth $47 per acre more, on the average, than cane left in heap rows for 9 days before grinding in the pilot plant at the Audubon Factory in experiments carried out during the 1954 season.[1, 2] Similar experiments were carried out during the 1955 season on eight separate lots of cane grown at St. Gabriel Plantation. These experiments were planned to be more comparable to current harvesting practices. The cane was to be burned, and relatively fresh samples ground on the second and third days were compared with samples taken seven and approximately ten day after cutting, rather than nine and fourteen day old cane used in the earlier work. Only two of the eight lots of cane could be cleaned by burning in the heap rows, as the others were too near the standing cane. The cane that could not be burned contained a high percentage of trash. The procedure was the same as in the earlier experiments except for these changes.

The additional return of at least $8 per acre realized for each day saved in getting harvested cane to the mills was confirmed by results of these experiments. The saving was greater than estimated in 1954, even though cane matured late and purities were lower in the 1955 crop. This increased return can be obtained by growers. Equally substantial gains can be realized by the factories from more efficient processing of the higher quality cane. There was marked improvement in commercial handling of cane during the 1955 season, when nearly all mills received fresher cane and were able to obtain satisfactory recoveries of sugar in spite of the low purities.

Results

The eight lots of cane included both plant and stubble of the three new varieties released most recently, and of the most widely grown variety, C.P. 44-101. They are representative of the kind of cane that will be grown and processed commercially for the next 5-10 seasons. Temperatures, rainfall, and humidities to which each lot of cane was exposed were generally favorable, as seen in Figure 1. The average, overall result of keeping the cane longer in field heap rows is given by the upper curve of Figure 2, showing the loss of recoverable sugar for which growers are paid. The average loss amounts to 15% of the recoverable sugar in 5 days after cutting, and reaches almost 22% in about 8½ days. This is caused by the combination of loss in weight, decrease in sucrose, and the drop in purity resulting largely from inversion. Average weight losses given in Table III are 8% of the freshly harvested weight after five days, and over 10% after 8½ days in the heap rows. The drop in purity, shown by the lower curve of Figure 2, was from 69.2 to only 65.4, and 63.8 in five and 8½ days, respectively. The 5-9 day old samples would have only salvage cane value for the lower purities. Sucrose percent cane dropped from 9.7% to 9.27%, and finally to 9.1% in the course of these experiments.

The most significant conclusion from these experiments is the computation in dollars and cents of the return that would be realized from 100 tons of the fresh cane delivered promptly, compared with the return from the reduced weight delivered after the cane has remained in the

(Continued on next page)

field 5 days and 8½ days longer. The differences shown in Table IV amount to $40 more per 25 tons for fresh cane compared with the 5-day older cane, and to $48 more per 25 tons compared to the return from cane 8½ days older. On an average stand of 25 tons per acre the extra return that would be realized by prompt delivery would be $48 per acre more than for cane delivered 8-9 days later. This amount is very nearly the same as the gain of $47 per acre for a similar stand harvested and held in the field for approximately the same length of time in the experiments carried out during the 1954 season.

Experimental Details

The four lots of stubble cane were cut during the first half of the season up to November 8, and four lots of plant cane were cut during the latter half of the season from November 15 to December 6. Because of the proximity of standing cane, it was possible to clean only one lot of stubble cane and one lot of plant cane by burning. The other lots were not cleaned. A sub-sample of about 150 lbs. was spread between stakes in the heap row to be weighed accurately each time that a 2-ton sample from the lot of cane was delivered for milling. This provided an approximate measure of the loss in weight of cane in the heap row. The older samples represent delays of five days and about 8½ days longer than the minimum time of delivery that is feasible in practice when cane is cleaned by burning. The two bundles of fresh cane from each lot were delivered together to the Audubon Mill on the second day, and one was milled that day, about 48 hours after cutting, while the second was milled the next day, about 72 hours after cutting. The weight of the 150-lb. sub-sample was taken at St. Gabriel Plantation on the third day after cutting, but this weight has not been applied to the 3-day old bundle of cane that was kept an extra day in the yard of the Audubon Mill. Weights of both the 2nd and 3rd day samples are taken as a standard ton as the basis for calculation of milling and processing results and determination of recoverable sugar; that is, the 3-day old samples are not discounted for loss of weight.

There was no extremely adverse weather during the season, but there was considerable variation in conditions to which different lots of cane were exposed in the heap rows. The conditions prevailing during each experiment are recorded in Figure 1. The first two experiments with stubble cane were completed by November 4 during a period of generally warm and unusually dry weather. Daily variations in temperature were from prevalent minima between 40-50°, and maxima above 80°. There was no rainfall, with minimum daytime humidities most frequently observed in the unusually low range between 20-30% relative humidity. The cane was not burned in these two experiments. Cane was burned for the third experiment with stubble, and this lot was also affected by the heavy rainfall of November 6. Higher humidities and lower temperatures prevailed during the latter half of the time that this cane remained in the heap row, when 7- and 11-day old samples were collected for milling. Fresh cane samples from the fourth lot of stubble cane were collected during this cool, humid period before November 10, but the older samples from this lot were delivered after temperatures had risen during a period of very humid weather with additional rainfall on November 13.

The first lot of plant cane was cut on November 15, when the weather was still warm and humid, and was later subjected to the first freeze experienced at St. Gabriel, followed by rising temperatures and relatively low humidity. There was more rainfall during the latter part of the season, when the last three experiments were made with plant cane. One of these lots of plant

cane, cut on November 29, was burned, while the other two were not cleaned by burning. The heaviest rainfall of the season, 1.7 inches on December 5, affected the last sample taken from the lot of cane that was cleaned by burning. Temperatures and humidities remained high during the experiments with one unburned and the burned lot of plant cane, but the last plant cane experiment was made during drier weather with temperatures had fallen again with sub-freezing minima on three days during the time that the experiment was in progress.

Weather conditions covered the range experienced in an average, normal season. Curves at the top of Figure 1 show the loss in weight of the cane, expressed as the percentage of the weight remaining in the 150-lb. sub-sample for each experiment. Between 10-15% of the weight was lost in the course of the experiments with all of the lots of unburned cane. This would be expected because of the loss of moisture and respiration from adhering leaves. Loss of weight by the burned stubble cane was less for two reasons; there was appreciable loss of weight during burning which is not determined because the sub-sample was weighed only after burning, therefore less loss could occur subsequently; and the burned samples were free of leafy material that loses weight most rapidly. This was true particularly of the stubble cane that was burned during hot, dry weather with leaves and trash thoroughly removed. The one plant cane sample that was cleaned had been imperfectly burned, and lost more weight rapidly at the beginning of the experiment, after which it was exposed during a period of heavy rainfall and relatively high humidity.

The 2-ton samples were milled in the Audubon tandem and the juices were clarified continuously on a pilot plant scale by the procedures that have been described previously for the evaluation for milling and processing of different kinds and qualities of cane.[3, 4] Results of the milling experiments will be the subject of a separate report by Professor Keller, from which the data on extraction, mixed juice Brix, and normal juice purity have been taken for the calculation of recoverable sugar given in Table III. Factors established for the Audubon Mill were used, together with the actual extraction determined for each sample, as a basis for the recoverable sugar calculation.

Complete data on the clarification of juices from the 2-ton samples of cane are assembled in Tables I and II. The effect of delay in milling upon quantities of mud and clarities varied considerably in these experiments, but the average clarities and mud quantities were not significantly different for old samples compared to fresh samples of cane. There was an increasing trend in both mud quantities and clarities. The drop in purity, plotted as average values for the eight experiments in Figure 2, is the principal factor other than loss of weight in reducing the recoverable sugar. It is quantitatively more important than the decrease in sucrose content in impairing the quality and reducing the value of cane that is not ground as promptly as possible after cutting and burning.

It is unfortunate that the location of the cane available for the experiments was such that six of the eight lots used for the experiments could not be burned. Only one lot of cane was burned thoroughly, and a second could be burned only partially during the rainy weather late in the season. The average loss of recoverable sugar subsequent to burning was less for these two lots of cane than the average loss in the six experiments with unburned, trashy cane ground at the same lengths of time after cutting. These results cannot be compared because the cleaned cane lost sugar in the burn-

(Continued on next page)

TABLE I

1955 DELAYED MILLING AND PROCESSING EXPERIMENTS—CLARIFICATION CONDITIONS AND PROCESSING RESULTS

Run No.	Date Harvested	Days in Field	Trash, % of Cane	Susp. Soil Dil. Juice lbs./T. Cane	Dilute Juice pH	Limed Juice pH	Defecated Juice pH	Defecated Juice Clarity 1/	Juice Purities Dilute	Juice Purities Defecated	
1	10-17		4.0	1.22	5.70	7.30	6.60	45	73.2	75.3	
4	10-24		6.0	1.38	5.75	7.35	6.60	34	63.6	65.7	
8	10-31		1.0	1.10	5.40	7.30	6.60	53	68.9	70.4	- Burned
12	11-7		3.0	5.59	5.65	7.35	6.65	39	66.9	71.6	
16	11-14		10.0	5.57	5.50	7.30	6.65	35	72.3	75.2	
21	11-26		8.0	4.64	5.65	7.35	6.60	29	70.1	73.1	
23	11-28		3.0	1.65	5.75	7.30	6.65	43	69.9	71.5	- Burned
28	12-5		8.7	9.31	5.65	7.25	6.70	38	68.3	72.6	
Average		2	5.5	3.81	5.65	7.30	6.65	40	69.2	71.9	
2	10-17		1.5	1.42	5.65	7.30	6.60	41	71.3	73.1	
5	10-24		5.0	1.50	5.65	7.50	6.65	40	63.1	64.6	
9	10-31		1.5	1.31	5.30	7.40	6.65	53	68.7	70.9	- Burned
13	11-7		11.0	6.74	5.65	7.40	6.60	35	65.8	71.1	
17	11-14		8.0	4.39	5.60	7.25	6.65	32	72.3	75.1	
22	11-26		6.0	4.37	5.75	7.35	6.65	21	66.6	69.9	
24	11-28		3.3	2.54	5.70	7.30	6.65	44	68.0	71.4	- Burned
29	12-5		8.7	8.46	5.60	7.20	6.65	37	68.2	72.7	
Average		3	5.6	3.84	5.60	7.35	6.65	38	68.0	71.1	
3	10-17	7	3.0	1.92	5.65	7.35	6.60	38	63.3	65.0	
7	10-24	7	4.0	1.36	5.70	7.40	6.60	41	55.8	58.2	
11	10-31	7	3.0	2.35	5.50	7.35	6.70	56	65.6	68.2	- Burned
15	11-7	7	7.0	6.57	5.65	7.40	6.60	7	56.6	59.0	
19	11-14	7	8.0	5.57	5.65	7.25	6.65	48	71.7	73.6	
25	11-26	6	10.0	3.79	5.75	7.30	6.70	27	70.4	73.3	
26	11-28	7	6.0	2.65	5.60	7.25	6.65	37	67.8	69.5	- Burned
31	12-5	7	10.0	6.79	5.65	7.20	6.60	50	72.2	75.1	
Average		7	6.4	3.88	5.65	7.30	6.65	38	65.4	67.7	
6	10-17	11	6.0	2.25	5.65	7.30	6.65	46	60.2	62.0	
10	10-24	11	5.0	1.57	5.70	7.40	6.65	42	55.0	58.9	
14	10-31	11	3.0	6.70	5.55	7.35	6.70	58	64.3	68.4	- Burned
18	11-7	11	5.0	7.40	5.65	7.40	6.65	32	61.1	66.0	
20	11-14	9	7.5	4.98	5.50	7.25	6.60	64	67.0	69.9	
27	11-26	10	10.0	4.57	5.60	7.25	6.65	23	65.6	66.1	
30	11-28	11	5.0	2.13	5.40	7.20	6.65	45	68.5	69.3	- Burned
32	12-5	9	6.0	6.63	5.60	7.15	6.65	45	69.0	73.3	
Average		10.4	5.9	4.53	5.60	7.30	6.65	44	63.8	66.7	

[1] Adjusted to 14.0 Brix as Standard.

ing operation, which the unburned cane did not lose. Experiments should be carried out to determine the loss of recoverable sugar as a result of burning. The largest gain will be realized by grinding only unburned, clean, fresh cane such as the combination harvester-cleaner-loader can deliver within 24 hours.

Acknowledgment

Cane for the experiments was provided by the American Sugar Cane League under the direction of Mr. Lloyd Lauden. We are particularly indebted to Capt. L. E. Chambers, whose interest in caring for the cane and supervising determinations of weights and the deliv-

TABLE II

1955 DELAYED MILLING AND PROCESSING EXPERIMENTS—LIME REQUIREMENTS AND MUD QUANTITIES

Run No.	Days in Field	Lime Requirement, Lbs./T.Cane	Dry Solids, Wt. % of Mud	Mud Produced, Lbs./T.Cane			Dry Solids Analyses, Wt. %		Filt. Gal/100 Sq Ft Per Hr.	Settling, Vol 1% Mud After 1Hr.
				Wet	Dry Solids Actual	Dry Solids Corrected[1]	Mineral	Organic		
1		0.70	5.04	120	6.05	4.83	31.4	68.6	103	12.0
4		0.97	6.45	116	7.48	6.10	35.2	64.8	98	16.0
8[2]		1.32	4.71	142	6.69	5.59	36.1	63.9	125	16.5
12		0.79	9.77	130	12.70	7.11	52.3	47.7	75	14.5
16		1.55	9.01	134	12.07	6.50	53.1	46.9	41	17.5
21		1.18	7.64	154	11.77	7.13	44.1	55.9	62	17.5
23[2]		1.42	5.29	144	7.62	5.97	37.3	62.7	75	14.0
28		1.52	11.51	147	16.92	7.61	61.7	38.3	70	18.1
Average	2	1.18	7.43	136	10.16	6.36	43.9	56.1	81	15.8
2		0.78	5.60	106	5.94	4.52	33.4	66.6	98	19.0
5		1.14	5.58	134	7.48	5.98	36.3	63.7	87	20.0
9[2]		1.39	5.13	159	8.16	6.85	34.0	66.0	143	16.5
13		0.89	11.49	122	14.02	7.28	56.0	44.0	71	17.0
17		1.38	8.73	121	10.56	6.17	47.9	52.1	54	17.5
22		0.95	9.56	102	9.75	5.38	46.5	53.5	129	14.0
24[2]		1.46	6.38	135	8.61	6.07	44.3	55.7	83	16.5
29		1.53	10.79	151	16.29	7.83	58.8	41.2	70	21.0
Average	3	1.19	7.91	129	10.10	6.26	44.6	55.4	92	17.7
3		1.03	5.87	132	7.75	5.09	34.4	65.6	92	12.0
7		1.25	5.31	157	8.34	6.14	32.1	67.9	83	21.0
11[2]		1.58	5.89	152	8.95	6.47	42.7	57.3	90	17.5
15		1.11	9.94	122	12.13	5.08	53.6	46.4	66	16.0
19		1.41	8.10	150	12.15	5.92	53.2	46.8	65	17.0
25		1.99	9.58	120	11.50	7.50	45.5	54.5	79	14.0
26[2]		1.81	5.74	160	9.18	6.22	44.9	55.1	58	17.5
31		1.29	9.60	141	13.54	6.30	55.9	44.1	86	21.5
Average	7	1.43	7.50	142	10.44	6.09	45.3	54.7	77	17.1
6		1.15	6.56	120	7.87	4.98	38.0	62.0	83	18.5
10		1.43	5.42	162	8.78	6.15	34.4	65.6	101	20.5
14[2]		1.63	8.08	166	13.41	6.49	61.2	38.8	114	18.0
18		0.92	11.21	123	13.79	5.62	56.8	43.2	78	16.3
20		1.58	7.13	157	11.19	5.30	55.6	44.4	55	19.0
27		1.25	9.23	130	12.00	6.44	42.6	57.4	73	17.0
30[2]		1.85	5.71	150	8.56	6.09	39.7	60.3	50	19.5
32		1.48	10.07	134	13.49	6.31	56.4	43.6	59	18.0
Average	10.4	1.41	7.93	143	11.14	5.92	48.1	51.9	77	18.4

[1] Corrected (a) for cane wt. loss in field.

(b) to 1.0 lbs. susp. Field Soil per ton cane in dilute juice.

[2] Burned cane.

eries from St. Gabriel Plantation assured the success of the work; to Mr. W. S. Chadwick, of J. Supples Sons, for providing scales for weighing the sub-samples; to Charles A. Fort for the analyses of the juices; and to Mr. George I. Pittman of the Engineering & Development Section for making the drawings. Cane was milled at the Audubon Sugar Factory under a research contract with Louisiana State University, and the assistance of Professor Keller and his staff in all phases of the work is gratefully acknowledged.

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TABLE III

1955 DELAYED MILLING AND PROCESSING EXPERIMENTS—SUGAR RECOVERY FROM CANE

Run No.	Days in Field	Cane Wt., Lbs./Ton Original	Sucrose, % of Cane	Macer. %	Normal Juice Brix	Normal Juice Sucrose	Normal and dilute Juice Purity	Sucrose Extraction, % of Sucrose in cane	Recoverable 96° Sugar % of cane	Recoverable 96° Sugar Lbs./Ton orig. cane
1			10.59	21.6	16.43	12.03	73.2	88.25	9.31	186.2
4			7.22	28.5	13.43	8.54	63.6	81.89	4.77	95.4
8[1]			9.00	17.1	15.49	10.67	68.9	87.62	6.72	134.4
12			8.71	22.6	14.55	9.73	66.9	85.80	6.18	123.6
16			10.96	24.5	16.85	12.18	72.3	86.64	8.37	167.4
21			10.50	27.9	15.97	11.20	70.1	87.71	7.94	158.8
23[1]			10.00	25.1	15.54	10.86	69.9	87.66	7.56	151.2
28			10.54	20.7	17.14	11.71	68.3	86.24	7.71	154.2
Average	2	2000	9.69	23.5	15.68	10.85	69.2	86.48	7.32	146.4
2			9.77	23.9	16.87	12.03	71.3	85.84	7.33	146.6
5			7.21	15.3	13.57	8.56	63.1	82.00	4.72	94.4
9[1]			9.16	21.2	15.50	10.64	68.7	87.18	6.81	136.2
13			8.31	24.0	14.35	9.44	65.8	84.88	5.81	116.2
17			10.64	27.2	17.06	12.33	72.3	85.92	8.07	161.4
22			8.70	29.4	14.61	9.73	66.6	88.33	6.36	127.2
24[1]			10.08	24.3	15.59	10.60	68.0	87.90	7.49	149.8
29			9.70	17.8	14.64	9.98	68.2	86.65	7.12	142.4
Average	3	2000	9.20	22.9	15.27	10.39	68.0	86.09	6.71	134.3
3		1747	9.73	36.8	17.38	11.00	63.3	87.39	6.80	118.8
7		1760	6.70	17.8	14.10	7.87	55.8	84.90	4.05	71.3
11[1]		1953	9.31	19.2	15.77	10.35	65.6	89.86	6.35	124.0
15		1827	7.05	26.6	13.52	7.65	56.6	81.49	4.15	75.8
19		1733	11.77	25.1	18.84	13.51	71.7	87.21	9.00	156.0
25		1947	10.46	26.6	14.94	10.52	70.4	88.43	8.01	156.0
26[1]		1907	9.13	26.3	14.43	9.78	67.8	88.27	6.80	129.7
31		1867	9.99	19.1	15.96	11.52	72.2	86.70	7.63	142.4
Average	7	1843	9.27	24.7	15.62	10.22	65.4	86.78	6.60	121.8
6		1773	8.82	20.3	16.94	10.20	60.2	85.81	5.80	102.8
10		1707	8.52	26.3	14.46	7.95	55.0	80.76	4.82	82.3
14[1]		1933	9.52	20.6	16.88	10.85	64.3	86.84	6.70	129.5
18		1737	8.16	27.9	15.75	9.62	61.1	83.08	5.26	91.4
20		1707	10.40	25.1	18.86	12.64	67.0	89.03	7.75	132.3
27		1733	8.83	21.3	14.81	9.72	65.6	86.56	6.29	109.0
30[1]		1893	8.87	16.5	15.18	10.40	68.5	84.39	6.36	120.4
32		1840	9.78	22.0	15.35	10.59	69.0	86.30	7.21	132.7
Average	10.4	1790	9.11	22.5	16.03	10.23	63.8	85.35	6.27	112.6

[1] Burned cane.

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[2] W. F. Guilbeau, E. E. Coll, and L. F. Martin. Losses from Delay in Delivering Harvested Cane. Sugar Bull. **34** (2) 28-30 (1955).

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[4] F. C. Schaffer et al. Evaluation of Sugar Cane Varieties—A Study of Milling Characteristics. La. Eng. Expt. Sta. Bull. **42**, 28 pp. (1954).

* One of the laboratories of the Southern Utilization Research Branch, Agricultural Research Service, U. S. Department of Agriculture.

TABLE IV
1955 PRICE DETERMINATION FOR 25 TONS OF SUGARCANE

	2 Days Old	3 Days Old	7 Days Old	11 Days Old
Price of sugar per pound	$0.060	$0.060	$0.060	$0.060
Price of molasses per gallon	.100	.100	.100	.100
Conversion of net sugarcane to standard sugarcane				
Sugarcane				
Sucrose in Normal Juice	10.85	10.41	10.22	10.23
Purity of Normal Juice	69.2	68.0	65.4	63.84
Sucrose Factor	.870	.778	.744	.746
Purity Factor	.960	.951	.913	.885
Conversion Factor	.8352	.7399	.6793	.6602
Price of Standard Sugarcane per ton	$6.360	$6.360	$6.360	$6.360
Sucrose Value per ton/cane	5.312	4.706	4.320	4.199
Molasses Value per ton/cane	.144	.144	.144	.144
Recoverable Sugar (Benefit Payment)	1.172	1.074	.974	.901
Total Amount Received	$6.620	$5.924	$5.438	$5.243
Weight of Cane	2000 lb.	2000 lb.	1843 lb.	1791 lb.
Value of 1 Acre (25 T) Sugarcane	$165.70	$148.10	$125.28	$117.38
Losses on One Acre		$ 17.60	$ 40.42	$ 48.32

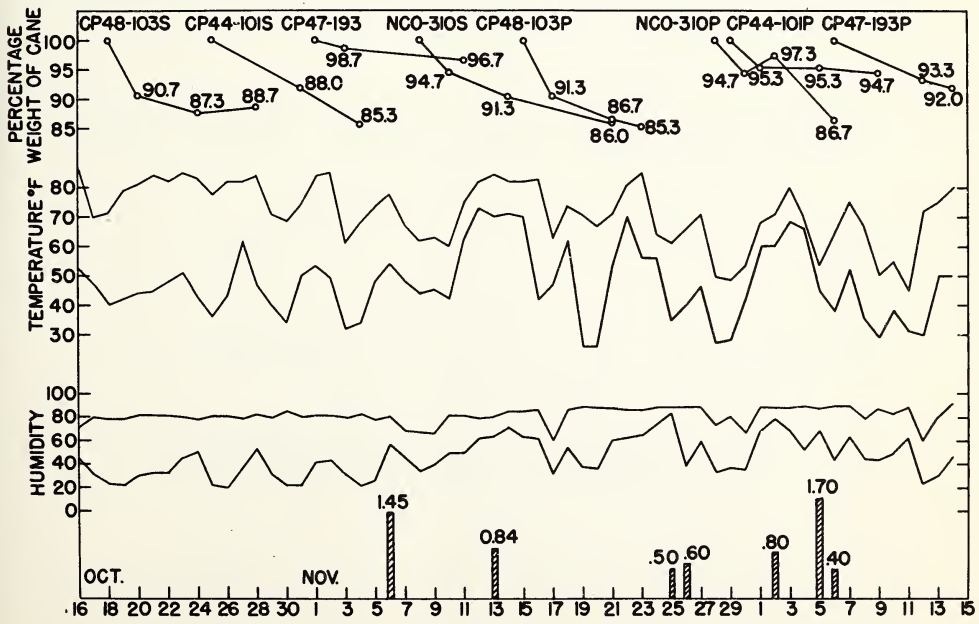

FIG. I-WEATHER CONDITIONS DURING 1955 GRINDING SEASON

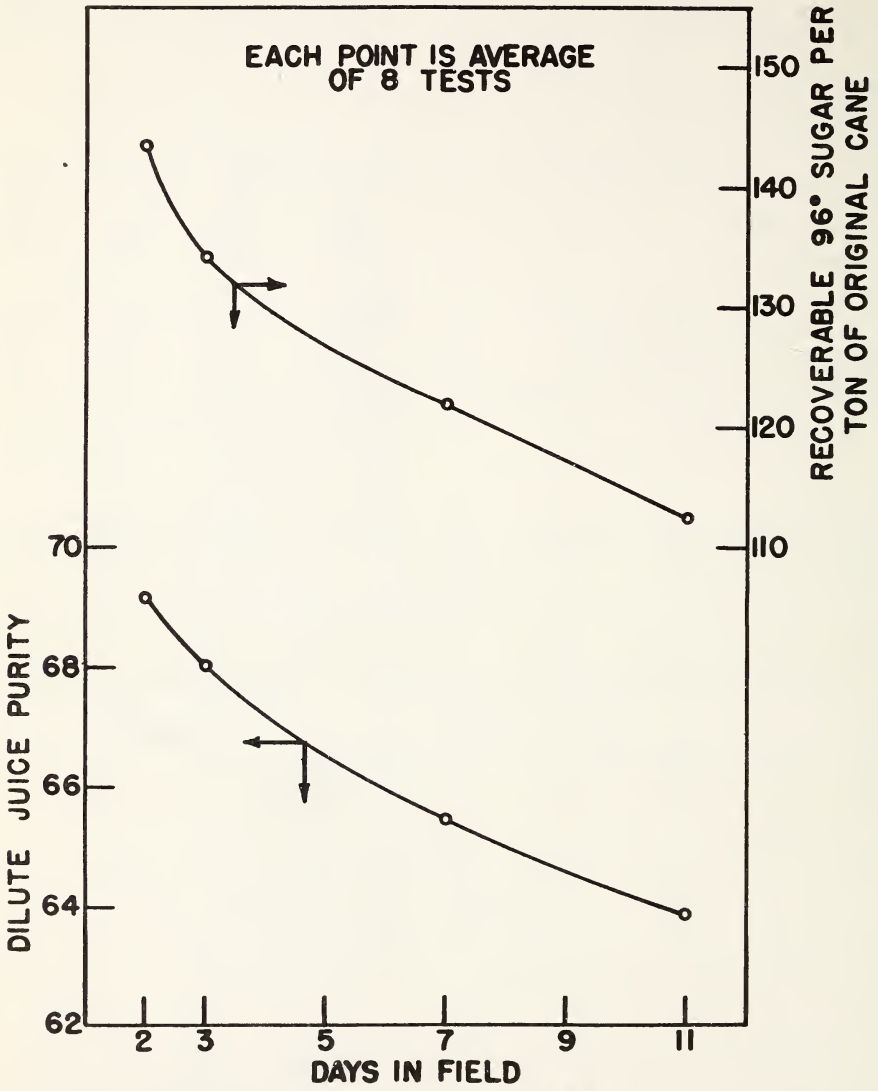

FIG.2 1955 DELAYED MILLING COMPARISONS OF DILUTE JUICE PURITIES AND SUGAR RECOVERIES

PRODUCTION OF SUGAR, SYRUP AND MOLASSES LOUISIANA, 1955-56 CROP (PRELIMINARY)

Tons of sugar cane ground for sugar, gross	5,949,155
Tons of sugar cane ground for sugar, net	5,664,412
Sugar Production, Pounds:	
Raw Sugar, 96°	726,467,149
Clarified	—
Turbinadoes	87,898,195
Granulated, refined	53,462,260
Granulated, plantation	10,045,200
Washed raws & crystals	9,739,455
Total sugar produced	887,612,259
Total sugar produced, raw value [1]	910,417,702
Total tons raw value	455,209
Magma, tailings, etc., 96° sugar (est.)	180,958
Edible molasses, 96° sugar estimated in	9,124,299
Molasses & Syrup Production:	
Tons of cane ground for syrup, gross	58,966
Cane syrup, gallons	1,397,874
1st molasses, gallons	1,640,898
2nd molasses, gallons	1,552,163
Blackstrap produced, gallons	37,902,846
Blackstrap, reduced to 80° Brix, gallons	41,247,507
Blackstrap estimated in magma	—
Total blackstrap, M & E 80° Brix, gallons	41,247,507

[1] Does not include sugar estimated in magma, tailings, etc.

Prepared by:
W. M. GRAYSON,
Sugar Marketing Specialist (Program)

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IN WASHINGTON

(Continued from page 204)

the United States, membership in the Organization for Trade Cooperation.

The bill has been favorably reported by the House committee on Ways and Means. Members of that committee from sugar-producing districts feel that the domestic sugar industry has no cause for worry and is exempt from the provisions of the General Agreement on Tariffs and Trade which prohibits restrictive quotas.

Representative Bailey, democratic Congressman of West Virginia, has introduced a resolution directing the House committee on Ways and Means to undertake an investigation and study of GATT. Mr. Bailey comes from a coal-producing district in West Virginia, where feeling is very strong against the General Agreement on Tariffs and Trade.

Mr. Bailey has asked the House for permission to speak for one hour on the subject. He said he would be joined by some ten or twelve members, both Democrats and Republicans, in an attempt to explain why the United States should not enter into the Organization for Trade Cooperation until it is known just what commitments have been made and how far Congress has been bound by the General Agreement on Tariffs and Trade.

IN THE FIELD

(Continued from page 203)

a manner to loosen the soil beneath the stubble? The proper answers to these and other cultivation questions could increase yields in Louisiana.

Storage of pollen by freezing could conceivably be very useful to the plant breeder. This technique, if successful, would take much of the suspense and hard work out of the production of certain possible desirable crosses.

The use of radio active materials on seed pieces to induce sports or mutations could be another aid to the plant breeder. A mutation could have commercial application or possibly be used in the breeding program.

Irrigation is certainly not new to the sugar industry. Irrigation has been practiced by a few farmers from time to time almost since the inception of the industry. Many who have used irrigation sing its praise. In spite of this there is but little factual material recorded. Controlled experiments could develop techniques and recommendations that could prove highly important to the industry.

It is good to know that any one of these studies, if successful, can materially improve yields in the Louisiana cane fields.

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In This Issue

Up Front With The League 219
100,000 Tons—Louisiana Prices—Child Labor—A New Service—The Right To Work

In The Field With Lloyd L. Lauden 220
Commercial Borer Control Consulting Service Now In Cane Fields

In Washington With Joe Ferris 221
No Sugar Bill, Yet—Florida Wage and Fair Price Hearing—Federal Highway Bill Changed

Quota Increase Announced 222

Some Observations On The Sugar Industry In Taiwan 223

Quotations Issued By The Louisiana Sugar Exchange On Raw Sugar For The 1955-56 Pricing Period 224

Sugar Market Statistics Through April 26, 1956 226

Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

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Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

100,000 Tons

A quota increase of 100,000 tons was announced by the Sugar Division on April 25th. There was definitely no shortage of sugar in the U. S., or any place, on April 25th so the Sugar Division says it acted to curb "speculative forces" in the market. The price of raw sugar in New York at the time was way up yonder in the stratosphere soaring around at the unheard of price of 6.09 cents a pound!

Incidentally, since (thanks to Mr. Cooley, et als) we are still working under the old Sugar Act, Cuba, at present, is allotted 96% of the quota increase with other foreign countries getting the remaining four per cent. However, unless there is "something very rotten in Denmark" this division will be adjusted to comply with the stipulations of the new sugar legislation when it finally makes the grade in Washington.

Louisiana Prices

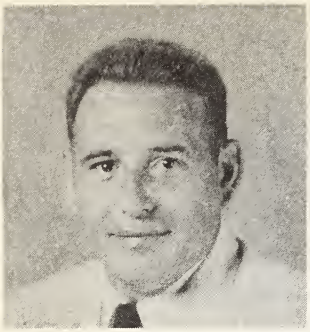
Elsewhere in this issue we are printing a table showing the daily raw sugar quotations issued by the Louisiana Sugar Exchange during the 29 week Louisiana Pricing Period which began on October 7th, 1955 and ended on April 26th, 1956. This table shows the New York spot quotations of the New York Coffee and Sugar Exchange, the freight differential as quoted each day by the freight brokerage firm of James E. Ward & Co., and the New Orleans quotations issued by the Louisiana Sugar Exchange.

Attention is called to the fact that although the difference in freight charges from Cuba to New York and Cuba to New Orleans was abnormally big during the early part of the pricing period, the average freight difference for the season amounted to less than four and a half cents per 100 pounds of sugar, the exact figure being 4.43 cents. This compares with a difference of 4.56 for the 1954-55 season and an average of 3.91 cents for the eight seasons that this system of pricing Louisiana raws has been used.

The pricing period for the season just completed was nine weeks longer than the twenty weeks used during the two previous seasons. We believe it will be interesting to see what difference this extended period made in the season's average price of raw sugar.

The figures show that if the season had ended on the last Thursday in February, after twenty weeks, the season's average price this year would have been $5.8665 per 100 pounds of sugar instead of the $5.8934 average price for the 29 week period used. Extending the pricing period for nine weeks resulted in an increase of 2.69 cents a hundred pounds in the season's average price of raw sugar and an increase of 2.8514 cents in the price of a standard ton of sugar cane. The Louisiana mills ground 5,664,412 net tons of cane this season and a little rapid calculating shows that the longer pricing period increased the overall value of the crop to the cane farmers approximately $161,515.00

(Continued on page 230)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Commercial Borer Control Consulting Service Now In Cane Fields

Mr. A. L. Dugas, formerly Entomologist with L.S.U. working on the control of the Sugarcane borer, is now operating a Borer Control Consulting Service in his own right.

It is not necessary to introduce Mr. Dugas to the Louisiana sugar industry for he has been with L.S.U. and in the cane fields for many years and everyone knows what a fine job he has done. The writer is, therefore, pleased to be able to cooperate by calling the industry's attention to the following services which Mr. Dugas advises he will render:

Cultural practices.—

1. Make harvesttime surveys to determine fields with heaviest borer infestation and carryover so as to make specific recommendations regarding harvesting for preventing further losses and application of cultural practices for destroying overwintering populations. This will eventually aid in decreasing the amount of dusting needed and will contribute to more effective dusting by reducing borer infestations to more normal levels.

Biological.—

1. Through weekly surveys and observations, to make recommendations as to time and location of parasite releases on a basis of actual prevalence and development of the borer infestation in specific fields.

Chemical.—

1. A field crew of trained men will be maintained to assist in making proper detailed field surveys to provide information on which to make specific recommendations.

2. First generation survey will be made in May to determine location, level and extent of borer infestation as a basis for further planning of chemical program and estimating insecticide and application needs.

3. Weekly surveys to be made during June, July and August, as needed, to maintain a constant check on borer development for controlling the second and third generations.

4. Recommendations will be made each week, by Mr. Dugas, as to time to start applications in individual areas of the farm or plantation, number of applications to be used, and dosage rates according to level and development of infestation. Control will be extended nearer to harvest by including the third generation.

5. Reports are to be rendered weekly during the insecticide control period or at such times as are necessary.

In addition to the above services, Mr. Dugas has constructed a laboratory to rear Trichogramma parasites, and now has available these parasites by the millions.

The writer wishes Mr. Dugas all the success in the world, and feels confident that he can render a very valuable service to the Louisiana sugar industry.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

No Sugar Bill—Yet!

Capitol Hill experts on legislation advise domestic sugar producers to remain patient, at least for the time being, and wait for Messrs. Byrd and Cooley to clear their schedules of other important matters before they attempt to reconcile the minor differences between the House and Senate versions of the Sugar Bill.

Although it has been pointed out that the season for planting sugar cane is here and farmers in Louisiana and Florida must decide whether to plant next year's crop or not, Representative Cooley appears to feel that the situation is not of sufficient urgency to warrant immediate legislative action.

Senator Harry Byrd has recovered sufficiently from a recent surgical operation to resume his duties on a limited schedule. Close friends of the Senator say he is not inclined to let the Sugar Bill lie dormant much longer, and in the near future will press the House for a conference on it.

Florida Wage and Fair Price Hearing

The Sugar Division of the U. S. Department of Agriculture has announced a public hearing at Clewiston, Florida, May 10th, for the purpose of obtaining testimony upon which to base wages and fair prices for sugar cane in that area.

All interested persons are requested to appear at the hearing to express their views and present appropriate data in regard to fair and reasonable wage rates for persons employed in the production cultivation for harvesting of sugar cane in Florida during the period July 1, 1956 through June 30, 1957 and for fair and reasonable prices for the 1956 crop of sugar cane to be paid, under either purchase or toll agreements, by producers who process sugar cane grown by other producers and who apply for payments under the Act.

The presiding officers at the hearings will be Mr. Thos. H. Allen, Deputy Director of the Sugar Division, and Mr. Ward Stevenson, Agricultural Economist of the Sugar Division, U. S. Department of Agriculture.

Federal Highway Bill Changed

The House Public Works Committee has announced approval of a final revised draft of the Federal Highway Bill (H. R. 10660). In this measure the Fallon Bill (H. R. 8836) and the Boggs Bill (H. R. 9075) have been combined.

The House Public Works Committee reported changes in the vehicle size and weights. The language of this section now provides axle loads instead of gross weights as the limiting factor. It reads as follows:

> "Sec. 7 (j). No funds authorized to be appropriated for any fiscal year by this section shall be apportioned to any State within the boundaries of which the Interstate System may lawfully be used by vehicles with weight in excess of 18,000 pounds carried on any one axle, or with a tandem axle weight in excess of 32,000 pounds, or the maximum corresponding

(Continued on page 229)

QUOTA INCREASE ANNOUNCED

On April 25th the U. S. Department of Agriculture announced an increase of 100,000 tons in the total sugar quotas for the continental United States for 1956. With this increase the 1956 quotas total 8,450,000 short tons, raw value. The action increases the quotas for Cuba and the "full-duty" countries by 96,000 and 4,000 tons, respectively.

The change in the quotas, increasing the amount of sugar available for marketing in the continental United States, is being made in accordance with provisions of the Sugar Act which call for adjustments during the year as needed to provide adequate supplies at prices that are fair to both producers and consumers.

The announced increase was based on the following "Statement of Bases and Considerations:"

"The total of the sugar quotas for 1956 was initially set at 8,350,000 short tons, raw value, to maintain fair prices and orderly marketing of sugar. The total of the sugar quotas is now increased to 8,450,000 short tons, raw value.

"The period of heavy cane harvesting in the Caribbean will soon start drawing to a close and the period of heavy summer sugar consumption is approaching. From the standpoint of fundamental merchandising forces, therefore, the market should be nearing a strong seasonal position.

"Sugar distribution for the year to date should have been conducive to price stability. Through April 14 distribution amounted to 2,202,000 tons or 70,000 tons in excess of that for the corresponding period of last year. After allowance is made for the constructive deliveries of nearly 70,000 tons at the beginning of 1955, distribution for the year to date is substantially equal to that for the corresponding period of last year. Invisible inventories (those held by wholesalers, retailers and industrial users) are estimated to have been nearly 50,000 tons smaller on January 1 than they were a year earlier.

"There is evidence that in recent weeks the raw sugar market has been dominated by speculative forces. Prices have risen during the period when they frequently reach their seasonal low point and the relationship between spot, nearby and distant futures prices is not in accordance with a normal price pattern. Although the New York spot sugar market is quoted at $6.05 per 100 pounds, it is reported that only nominal quantities are available at that level and sales have been reported at prices as high as $6.10 per 100 pounds. Last year spot raw sugar was quoted at $5.75 per 100 pounds at the low point in April, and the highest quotation in the year was $6.08 per 100 pounds. The rise in the price of raw sugar has caused the New York price of refined sugar to rise to $8.75 per 100 pounds, or only 10 cents per 100 pounds below the peak for the postwar period. Although producers who have had sugar to sell have been benefitted by recent price rises, such speculative forces, unless curbed, can as readily operate to depress prices.

"Although it would be desirable for technical reasons not to adjust sugar quotas until the proposed sugare legislation has been enacted, it appears necessary to make this adjustment at this time in order to preserve a stable and healthy sugar market which will provide a supply at prices which are not excessive to consumers and which will maintain and protect the welfare of the domestic sugar industry."

The increase in quotas and the revised prorations will be effective

(Continued on page 229)

SOME OBSERVATIONS ON THE SUGARCANE INDUSTRY IN TAIWAN

By E. V. Abbott, Field Crops Research Branch, Agricultural Research Service, U. S. Department of Agriculture

At the invitation of the Taiwan Sugar Corporation I spent approximately two months in Taiwan (Formosa) from early November 1955 to January 1956, advising with the staff of the experiment station operated by the corporation on their problems in sugarcane breeding and disease control. Visits were made to all parts of the sugarcane area of the island, which provided an excellent opportunity to become acquainted with their breeding and disease problems, as well as to observe their cultural practices.

Sugarcane is grown in Taiwan on approximately 225,000 acres of land, of which about 65,000 acres are under the administration of the corporation and the balance made up of small farms averaging about one acre in size, on many of which cane is grown under contract with the corporation. Twenty-six of the 28 factories are located on the western coastal plain from Taichung south, and the other two are in the narrow valley between two mountain ranges extending along the eastern coast. Only about one-third of the island is arable, a rugged mountain range extending north and south occupying roughly two-thirds of the total land area. The lands used for sugarcane vary from deep fertile alluvial soils to stony hillsides of low fertility. Because of the wide diversity of conditions under which the crop is grown, a detailed description of sugarcane culture on the island would be quite lengthly, while on the other hand a brief generalization such as this will not be fully applicable to all conditions.

Sugarcane has been grown in Taiwan for over 600 years, but the modern development of the industry began under the Japanese occupation of the island from 1895 to 1945. Virtually destroyed during World War II, the industry has made remarkable recovery since Taiwan was returned to China in 1945, and the production of sugar per hectare (2½ acres) for the current crop will be perhaps the highest recorded for the island. Total sugar production for the current crop is estimated at about 750,000 tons.

On corporation properties, land preparation, fertilization, and, to some extent, cultivation operations have been partially mechanized, but no mechanical work is done on the small farms. Small farmers commonly interplant cane with other crops such as sweet potatoes, peanuts, rice, cotton, and vegetables, and while maximum yields of cane are seldom obtained under such conditions owing to the competition for light and nutrients by the other crop, as well as inability to cultivate the cane to best advantage, profitable yields are obtained. The land is plowed with a single moldboard plow drawn by water buffalo or bullock, and at the appropriate time the 2-eye seed cane pieces are planted, between the rows of the other crop, spaced about one foot apart. If interplanted with rice, the cuttings are inserted at an angle with one bud above ground and water level. After the interplanted crop is harvested, hilling of the cane begins with a plow, or sometimes with hoes. Most of the crop is planted in August and September, although some is also planted in the spring.

On corporation properties, land is prepared in a manner similar to that in Louisiana with tractor-drawn implements. When old stubbles are broken out after harvest, sun hemp is planted as a green

(Continued on page 227)

QUOTATIONS ISSUED BY THE LOUISIANA SUGAR EXCHANGE, INC. ON RAW SUGAR, 1955-56 PRICING PERIOD

Date	N. Y.	Freight	N.O.
Oct. 7	6.05	.06	5.99
8	No Market		
9	Sunday		
10	6.05	.06	5.99
11	6.05	.06	5.99
12	No Market		
13	6.05	.07	6.02*
Weekly Average	6.00		
Oct.14	6.05	.08	6.01*
15	No Market		
16	Sunday		
17	6.05	.08	5.97
18	6.05	.08	6.01*
19	6.05	.08	6.00*
20	6.05	.09	5.96
Weekly Average	5.99		
Oct.21	6.05	.09	5.96
22	No Market		
23	Sunday		
24	6.05	.09	5.96
25	6.05	.09	5.96
26	6.06	.09	5.97
27	6.06	.09	5.97
Weekly Average	5.96		
Oct.28	6.06	.09	5.97
29	No Market		
30	Sunday		
31	6.05	.09	5.96
Nov. 1	6.05	.09	5.96
2	6.05	.09	5.96
3	6.00	.09	5.91
Weekly Average	5.95		
Nov. 4	6.00	.09	5.91
5	No Market		
6	Sunday		
7	5.95	.09	5.91*
8	No Market		
9	5.90	.09	5.81
10	5.90	.09	5.82*
Weekly Average	5.86		
Nov.11	No Market		
12	No Market		
13	Sunday		
14	5.90	.09	5.81
15	5.92	.08	5.84
16	5.95	.08	5.87
17	5.95	.08	5.87
Weekly Average	5.85		

Date	N. Y.	Freight	N. O.
Nov.18	5.95	.08	5.91*
19	No Market		
20	Sunday		
21	5.98	.08	5.90
22	6.00	.08	5.92
23	6.00	.08	5.92
24	No Market		
Weekly Average	5.91		
Nov.25	6.00	.08	5.92
26	No Market		
27	Sunday		
28	6.00	.08	5.92
29	6.00	.06	5.96*
30	6.00	.04	5.96
Dec. 1	6.00	.04	5.96
Weekly Average	5.94		
Dec. 2	6.00	.04	5.96
3	No Market		
4	Sunday		
5	5.85	.04	5.81
6	5.80	.04	5.76
7	5.80	.04	5.76
8	5.80	.04	5.76
Weekly Average	5.81		
Dec. 9	5.80	.04	5.76
10	No Market		
11	Sunday		
12	5.80	.04	5.76
13	5.80	.03	5.77
14	5.80	.03	5.77
15	5.80	.03	5.77
Weekly Average	5.77		
Dec.16	5.80	.03	5.77
17	No Market		
18	Sunday		
19	5.80	.03	5.77
20	5.83	.03	5.80
21	5.83	.03	5.80*
22	5.83	.03	5.80
Weekly Average	5.79		
Dec.23	5.83	.03	5.80
24	No Market		
25	Sunday		
26	No Market		
27	5.83	.03	5.80
28	5.83	.03	5.80
29	5.83	.03	5.80
Weekly Average	5.80		

*Local Sale

Date	N. Y.	Freight	N.O.
Dec.30	5.83	.03	5.80
31	No Market		
Jan. 1	Sunday		
2	No Market		
3	5.83	.03	5.80
4	5.83	.03	5.80*
5	5.83	.03	5.80
Weekly Average	5.80		
Jan. 6	5.83	.04	5.80*
7	No Market		
8	Sunday		
9	5.83	.04	5.80*
10	5.85	.04	5.81
11	5.85	.04	5.815*
12	5.85	.04	5.81
Weekly Average	5.81		
Jan.13	5.85	.04	5.81
14	No Market		
15	Sunday		
16	5.90	.04	5.85*
17	5.90	.04	5.86
18	5.90	.04	5.86
19	5.95	.04	5.91
Weekly Average	5.86		
Jan.20	5.93	.04	5.89
21	No Market		
22	Sunday		
23	5.93	.04	5.89
24	5.90	.04	5.86
25	5.90	.04	5.86
26	5.90	.04	5.86
Weekly Average	5.87		
Jan.27	5.90	.04	5.86
28	No Market		
29	Sunday		
30	5.90	.04	5.86
31	5.87	.04	5.855*
Feb. 1	5.85	.04	5.81
2	5.85	.04	5.81
Weekly Average	5.84		
Feb. 3	5.85	.04	5.81
4	No Market		
5	Sunday		
6	5.85	.04	5.81
7	5.83	.04	5.79
8	5.83	.03	5.80
9	5.83	.04	5.79
Weekly Average	5.80		

Date	N. Y.	Freight	N. O.
Feb.10	5.85	.04	5.81
11	No Market		
12	Sunday		
13	No Market		
14	5.88	.04	5.84
15	5.90	.03	5.87
16	5.90	.03	5.87
Weekly Average	5.85		
Feb.17	5.90	.03	5.87
18	No Market		
19	Sunday		
20	5.90	.03	5.87
21	5.90	.03	5.87
22	No Market		
23	5.90	.03	5.855
Weekly Average	5.87		
Feb.24	5.90	.04	5.86
25	No Market		
26	Sunday		
27	5.90	.04	5.86
28	5.90	.04	5.86
29	5.95	.04	5.90*
Mch. 1	5.95	.04	5.91
Weekly Average	5.88		
Mch. 2	5.95	.04	5.91
3	No Market		
4	Sunday		
5	5.98	.04	5.95*
6	5.98	.04	5.965
7	5.98	.04	5.98*
8	5.98	.04	5.94
Weekly Average	5.95		
Mch. 9	5.98	.03	5.965
10	No Market		
11	Sunday		
12	5.98	.02	5.97*
13	5.98	.01	5.97
14	5.98	.00	5.98*
15	5.98	.00	5.98
Weekly Average	5.97		
Mch.16	5.90	.01	5.98*
17	No Market		
18	Sunday		
19	5.90	.01	5.89
20	5.90	.01	5.89
21	5.90	.01	5.89
22	5.90	.01	5.89
Weekly Average	5.91		

*Local Sale

Date	N. Y.	Freight	N.O.
Mch. 23	5.90	.02	5.88
24	No Market		
25	Sunday		
26	5.98	.01	5.99*
27	5.98	.01	5.97
28	5.95	.01	5.94
29	5.90	.01	5.89
Weekly Average	5.93		
Mch. 30	No Market		
31	No Market		
Apr. 1	Sunday		
2	5.90	.01	5.89
3	5.90	.01	5.89
4	5.92	.01	5.91
5	6.00	.01	5.99
Weekly Average	5.92		
Apr. 6	6.00	.02	6.00*
7	No Market		
8	Sunday		
9	6.00	.04	5.96
10	6.02	.03	5.99
11	6.02	.03	5.99
12	6.05	.03	6.02
Weekly Average	5.99		

Date	N. Y.	Freight	N. O.
Apr. 13	6.05	.03	6.02
14	No Market		
15	Sunday		
16	6.05	.04	6.01
17	6.05	.04	6.01
18	6.05	.04	6.01
19	6.05	.04	6.01
Weekly Average	6.01		
Apr. 20	6.05	.04	6.01
21	No Market		
22	Sunday		
23	6.05	.04	6.01
24	6.05	.04	6.01
25	6.09	.04	6.05
26	6.05	.04	6.01
Weekly Average	6.02		

SEASON'S AVERAGE PRICE PER POUND 5.8934¢

SEASON'S AVERAGE FREIGHT DIFFERENTIAL 4.43¢ **PER HUNDRED POUNDS**

*Local Sale

SUGAR MARKET STATISTICS THROUGH APR. 26, 1956

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.05	5.98	5.78
QUOTA RAWS DELIVERED NEW ORLEANS	6.01	5.97	5.76
WORLD SPOT RAWS (In Cuba)	3.39	3.32	3.32

SUGAR FUTURES No. 6
(Closing Bid Prices)

	July	Sept.	Nov.
Today	5.55	5.58	5.58
1 Month Ago	5.55	5.58	5.59
1 Year Ago	5.51	5.59	5.61

OFFSHORE RECEIPTS AT NEW ORLEANS
(Long Tons, 2,240 lbs.)

	To Date 1956	Same Date 1955
American	115,088 tons	120,505 tons
Godchaux	69,495 tons	80,974 tons
Colonial	61,680 tons	77,465 tons
Henderson	38,441 tons	31,324 tons
Southdown	13,657 tons	2,739 tons
South Coast	18,998 tons	9,473 tons
Supreme	36,670 tons	22,670 tons
Totals	354,029 tons	345,150 tons

TAIWAN

(Continued from page 223)

manure crop and turned under prior to planting the next cane crop. Land is set up prior to planting in a manner somewhat similar to that in Louisiana, except that the spacing between the rows is 4½ feet. The planting, however, is quite different. A furrow is not opened for the seed, but the 2-eye cuttings are placed and covered lightly by hand in the bottom of the "middles" instead of on top of the ridge as in Louisiana. Formerly 20,000 to 24,000 seed pieces were planted per hectare, but now with N. Co. 310 the planting rate has been reduced to 15,000 to 18,000 pieces per hectare.

The first cultivation is a hand hoeing, as may be necessitated by weed growth. As the cane advances in growth the dirting or hilling process begins, at first with hoes, and later with tractors (on corporation lands). The hilling or dirting continues at intervals until finally the cane is ridged as it is in Louisiana. However, since the planting was done in the bottom of the furrow, this means that at maturity several joints of the stalk are below ground level. The timing and extent of this hilling suppresses suckering, which is deficient in Taiwan as compared with Louisiana.

A complete fertilizer is used, all of the phosphate and potash and one-third of the nitrogen being applied before planting, and the balance of the nitrogen in two subsequent applications. An average total application of fertilizer would be 750 pounds of ammonium sulfate, 220 pounds of muriate of potash, and 130 pounds of phosphate per acre. Small farmers use considerable quantities of organic composts and manures.

Harvesting is all done by hand on corporation lands as well as on the small farms. There is some variation in detail from place to place, but generally the cutting and loading are done by men, topping and stripping by girls. With a grubbing hoe the man cuts the stalk several inches below ground level to get all of the mature joints. This is actually a digging operation. A girl then tops the stalks, cleans them virtually free of trash and roots (from the bottom joints), while another girl cuts the stalks in two and ties the pieces in bundles of 35 to 40 each. Working as a team, one man and two girls will cut, clean and tie three tons of cane per 10-hour day. Loading is also by hand into bullock- or buffalo-drawn carts, and from these again by hand into narrow-gauge railway cars for transport to the mill. One man will load from field to rail cars six tons of cane per day. Cutters and loaders are paid by the ton.

Yields of cane vary greatly depending on fertility of the soil and other growing conditions. For the 5-year period 1949-53 the average yield for the island was 23 tons of cane and 2.8 tons of sugar per acre (for 12 to 18 months' growth), but yields are being increased considerably by the expansion of N. Co. 310, which now occupies about 80 percent of the cane acreage. On the better soils, from 40 to 50 tons of cane per acre are being obtained from plant cane of this variety and 30 to 35 tons per acre from stubbles. However, on some of the poorer soils and where water is very deficient, yields may be as low as 10 to 12 tons per acre. Besides N. Co. 310, which has become the major cane since the 1953-54 crop, other varieties grown commercially are P.O.J. 2883, F. 108 and F. 134. The two Hawaiian canes, H. 32-8560 and H. 37-1933, are showing adaptability to some localities.

Many contract farmers grow only a plant cane crop and formerly this was true on corporation lands also, but the corporation now generally carries its plantings through a first stubble crop. Trash is rarely burned. Small farmers remove it for animal feed or fuel, while on corporation lands it is turned under with me-

chanical equipment. The stubbles are offbarred with tractors, and for the most part mechanically fertilized and later hilled. Weeding and some hilling are done with hand hoes. Coco or nut grass, crab grass and goose grass are the principal weeds.

The Taiwan Sugar Corporation maintains a broad program of research covering all phases of the industry. The central experiment station at Tainan has a scientific staff of about 60, with departments of breeding, plant pathology and entomology, agronomy, soils and fertilizers, sugar technology, bagasse utilization, and fermentation. Breeding work is carried on here, at Pingtung (formerly an independent station, but now integrated with Tainan), and at several substations over the island where differing environmental conditions favor flowering of some varieties. About half a million seedlings are produced each year. The research work of the station is of high quality and compares favorably with that at similar institutions in other sugarcane countries.

For both administrative and research purposes, the sugar area is divided into five factory districts, each under the administration of a district manager. Each district operates a sugarcane improvement station where both research and extension activities are carried on under the supervision of a Superintendent. The research work consists principally of variety yield trials (similar to our outfield tests in Louisiana), and experiments on cultural practices, fertilizers, and disease and insect control. The results of the research work are brought to farmers through demonstrations and field days, somewhat similar to those we have in Louisiana.

The disease problem is paramount in the breeding and varietal improvement program. Taiwan harbors one of the world's largest collections, of important diseases, including downy mildew, red rot, pineapple disease, leaf scorch, leaf blight, and yellow spot caused by fungi; mosaic, chlorotic streak, and ratoon stunting of virus origin; leaf scald, a bacterial disease; and bunga, a parasitic flowering plant. Most of these diseases are capable of causing serious loss to a susceptible variety, and the job of combining a satisfactory degree of resistance to all of them in a single variety, along with other requirements of a commercial cane, is indeed a formidable one. For that reason it is necessary to employ other disease-control measures. Roguing is practiced for mosaic, chlorotic streak, and downy mildew; a fungicide (granosan) is used to treat seed pieces for control of pineapple disease; and hot water treatment is being done on an industry-wide scale for control of stunting disease.

Leaf scorch and leaf blight were first described in Taiwan. Blight is not known to occur in other countries, but scorch has been reported in the Philippines. Scorch was not recognized and described as a disease until 1950, although the fungus has been found on old herbarium specimens of sugarcane leaves colelcted in Taiwan in 1909. As the name implies, the disease causes extreme drying of affected leaves and eventually gives the plant a scorched or fired appearance. It became the most serious disease on the island in 1952-53, when Co. 290 and an unidentified Co. variety, both very susceptible, were being grown commercially. It is now causing less loss with the rapid expansion of N. Co. 310 as the major cane, although this variety is of only average resistance. The only two C. P. canes that have been exposed to infection here, C. P. 29/116 and C. P. 34/79, are resistant.

Leaf blight has been identified only in Taiwan, where it was first observed in 1933, and in Okinawa. It is more localized in its ocurrence than scorch, being most severe in the cooler, wet areas. It produces many narrow, elliptical spots on affected leaves, which are at first

bright yellow but become deep red in later stages. Most of the leaves of susceptible varieties may become reddened, giving them a blighted appearance. N. Co. 310, C. P. 29/116 and C. P. 34/79 are susceptible. However, N. Co. 310 produces good sugar yields in spite of heavy infection by this disease.

Because of the frequency of typhoons in Taiwan, resistance to wind damage is also very important, and is one of the characters on which the breeders base their selections in the nurseries. Generally, wind resistance seems to be correlated with high fiber, and so we find the breeders here choosing rather than rejecting high fiber canes.

Except for typhoons, climatic conditions are generally favorable for sugarcane in the areas of the island where it is now grown. Annual rainfall in the Taichung and Tainan districts varies from about 65 to 70 inches, with the heaviest fall from May through September. The monthly averages for this period range from 8 to nearly 18 inches. Winter temperatures vary from minimums of about 50° F. to maximums in the low 70's. Average minimums of 70° F. or above are maintained from May through August, with average maximums in the high 80's or low 90's. The distribution of rainfall and temperature is such that sugarcane has a hot, wet summer growing season and a cool, dry winter for harvesting. The harvest begins in early November and continues through April.

The visitor to Taiwan can not fail to be deeply impressed by several things he sees there. The first, perhaps, is the great natural beauty of the island, which prompted its Portuguese discoverers to name it Formosa—the beautiful. The agriculturist is impressed by the intensive culture of the land he sees everywhere. Virtually every foot of tillable land is cared for in such a manner that farms take on the aspect of gardens. One can walk or drive for miles through the picturesque intermixture of rice, sugarcane, sweet potatoes, peanuts, and an endless assortment of vegetables, and scarcely see a weed; and if he does, he has the feeling it will not be there long. Human labor is plentiful and cheap, which permits intensive and refined cultural practices that would not be economical in our own country. It becomes immediately apparent that the Chinese farmer loves the soil, and in his devoted care of it and the crops it supports he need take second place to no other.

—o—

QUOTAS

(Continued from page 222)

on May 1, 1956 when Amendment 1 to S. R. 811 is published in the Federal Register. The adjustments made in quotas and the new quotas are as follows:

Area	Increases	New Quotas
Domestic beet		1,800,000
Mainland Cane		500,000
Hawaii		1,052,000
Puerto Rico		1,080,000
Virgin Islands		12,000
Republic of the Philippines		980,000
Cuba	96,000	2,904,960
Dominican Republic	994	30,058
El Salvador	149	4,504
Haiti	96	2,909
Mexico	412	12,463
Nicaragua	281	8,518
Peru	1,868	56,536
Unspecified Countries	200	6,052
Total	100,000	8,450,000

—o—

IN WASHINGTON

(Continued from page 221)

axle weight permitted for vehicles using the public highways of such State under laws or regulations established by appropriate State authority in effect on July 1, 1956, whichever is the greater."

A special rule was promptly granted by the House Rules Committee. The Bill is scheduled to come on the floor of the House for a five hour debate and final vote April 26, 1956.

UP FRONT

(Continued from page 219)

Child Labor

It has come to our attention that some sugar cane farmers have unknowingly violated the child labor provisions of the Fair Labor Standards Act. That Act and the Sugar Act each have provisions governing the employment of minors. Considering both Acts, the following is what you cannot do in your sugar cane operations without violating the law:

You cannot employ at any time a child under 14 years of age, unless he is your own child and you own at least 40 per cent of the sugar cane crop on the farm where he works.

You cannot employ a child under 16 years of age to do work during school hours, unless he is your own child working on your own farm.

If you employ a child between the ages of 14 and 16 to perform work outside of school hours, you cannot allow him to work for a longer period than 8 hours in any day, unless he is your own child and you own at least 40 per cent of the sugar cane crop on the farm where he works.

The above relates to the employment of minors in sugar can agricultural operations. The restrictions on employment of minors in sugar factories are much stricter.

A New Service

We note that our good friend, A. L. Dugas, who for so many years has been battling cane pests as a public servant with L. S. U., has now gone into private practice.

"Duggie" is now a consulting entomologist with headquarters at the Dugas Pest Control Laboratories, 667 Nelson Drive, in Baton Rouge, La.

The Dugas Pest Control Laboratories have cane borer parasites available and Mr. Dugas suggests that you order your supply early. We join with Lloyd L. Lauden in wishing him great success in his new venture.

The Right To Work

The following resolution was unanimously adopted by the Sugar Producers' Club, Western Division, when that organization held its monthly meeting in New Iberia April 6th.

"*Whereas,* we, the members of the Louisiana Sugar Producers Club, Western Division, believe unalterably in two basic principles of American freedom:

1. No American should be required to join, affiliate with or pay tribute to any labor union or other similar organization as a condition of obtaining or retaining employment, and

2. Every American should be allowed, without fear or reprisal, either economic or otherwise, to join and maintain membership in a labor union or other similar organization in accordance with his own free will and desire, and

Whereas, during the 1954 Session

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of the Louisiana Legislature certain legislation designed to protect these two basic principles was enacted in the form of the Right to Work Act, therefore

Be It Resolved that the Honorable Earl K. Long, Governor Elect of the State of Louisiana, and the members of both Houses of the Louisiana Legislature be, and are hereby, respectfully urged to refrain from any or action whatsoever during the 1956 Session of the Louisiana Legislature which would have the effect of either repealing or modifying the previously mentioned legislation enacted in 1954, and

Be It Further Resolved that copies of this resolution be sent to the Honorable Earl K. Long and to the members of both the Senate and House of Representatives of the State of Louisiana, and

Be It Further Resolved that the President of this organization be authorized to give such publicity to this resolution as he may deem proper."

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In This Issue

Up Front With The League 235
Worry-Warts—Play by Play

In The Field With Lloyd L. Lauden 236
A Meeting At St. John Factory

In Washington With Joe Ferris 237
"Log Jam" Broken

Recent Studies Conducted On The Ratoon Stunting Disease Of Sugarcane In Louisiana 238

New Method Of Sampling And Trash Testing Of Sugarcane 244

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THE
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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Worry-Warts

"If you are a worry-wart, like we are, you may be getting a little jittery about the time it is taking to get quota relief legislation started in the halls of our Nation's Capitol."

We wrote the above for the March 15th, 1955 issue of *The Sugar Bulletin,* and went on to say that we had been counselled by folks who know to *"keep our shirt on."* Since that time we have received a gosh awful lot of "counsel" from Washington, but on May 2nd 1956, after thirteen months, we were still waiting and our shirt—well, thirteen months is a long time to sweat it out in one shirt.

Play By Play

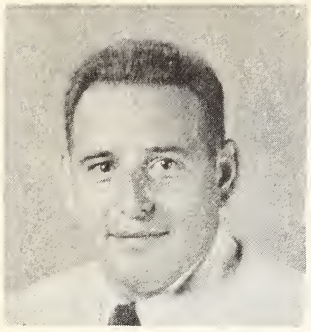
On the 2nd of May, we couldn't stand it any longer so we wired Messrs. Ellender, Long, Boggs and Willis as follows:

IN JUNE 1953 THE DEPARTMENT OF AGRICULTURE ANNOUNCED ACREAGE AND MARKETING RESTRICTIONS WOULD BE NECESSARY FOR THE LOUISIANA SUGAR INDUSTRY. SINCE THAT TIME ACREAGE HAS BEEN PROGRESSIVELY REDUCED TO A POINT WHERE THIS YEAR'S ACREAGE IS ONLY 71 PERCENT OF THE 1953 ACREAGE. ATTEMPTS TO RELIEVE THIS OPPRESSIVE SITUATION BEGAN ON FEBRUARY 25, 1954 AT WHICH TIME THE FIRST BILL TO INCREASE THE STATES SUGAR MARKETING QUOTA WAS INTRODUCED. THE DELAY IN COMPLETING SUGAR LEGISLATION IS RESULTING IN A GROWING STORM OF PROTESTS FROM LOUISIANA SUGAR PEOPLE WHO FEEL THAT IT IS INEXCUSABLE TO ALLOW ONE MAN TO BLOCK LEGISLATION THAT HAS BEEN PASSED BY BOTH BRANCHES OF CONGRESS BY OVERWHELMING MAJORITIES. THEIR RESENTMENT HAS BEEN HEIGHTENED BY THE RECENT INCREASE IN QUOTAS GIVING CUBA 96,000 TONS MORE U.S. QUOTA WHILE OUR FARMERS ARE FORCED TO REDUCE THEIR PRODUCTION. WE FEEL THAT AN EXPLANATION OF YOUR POSITION IS OF UTMOST IMPORTANCE AT THIS TIME AND WE INVITE YOU TO USE THE PAGES OF THE SUGAR BULLETIN WHICH IS SUBSCRIBED TO BY 97% OF THE LOUISIANA CANE FARMERS TO TELL THESE FARMERS WHY YOU HAVE BEEN UNABLE TO COMPLETE THE SUGAR LEGISLATION WHICH YOU SO ABLY STEERED THROUGH THE HOUSE NINE MONTHS (SENATE THREE MONTHS) AGO.

Right away we received the following reply from Congressmen Hale Boggs and Ed Willis:

INRETEL WE HAVE WORKED HARDER ON SUGAR ACT EXTENSION THAN ANY LEGISLATION DURING THIS SESSION. WE HAVE ENCOUNTERED THE FOLLOWING OBSTACLES: (1) OPPOSITION FROM STATE DEPARTMENT. DEPARTMENT OF AGRICULTURE AND OTHER GOVERNMENT AGENCIES. (2)

(Continued on page 243)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

A Meeting At St. John Factory

A committee composed of Messrs. Expadie Laperouse, Willie Bernis, Wade Bernis, Ernest Hebert, Elmore Albert, Carl Poche, Sr., Sevan Bourque, Jack Lowrie, Norman Boudreaux and Stanley Angelle met at the St. John sugar factory a month ago to discuss ways and means of increasing cane yields in the St. John factory area. The committee decided that a large meeting should be called at a later date at which scientists of the L.S.U. and the U.S.D.A. Stations be asked to discuss fertilizer, (particularly potash and phosphate) beetle control, diseases of cane, and sugar varieties. The committee further recommended that the scientists speak French, if possible. Mr. Jack Lowrie, Manager of St. John Factory, offered the meeting place and further said that St. John would provide a Barbecue and refreshments.

As a result of the committee meeting a large meeting of sugar cane growers was held on the Levert-St. John properties in St. Martinville on May 9. More than 80 farmers were present.

Dr. Leo Hebert of the U.S.D.A. Sugar Station, Houma, La., discussed the varieties of sugar cane that yielded better from the standpoint of sugar per acre and tons of cane per acre. Mr. Hebert told the group that the test field in the area showed that C.P. 44-101 was a good cane for the area, that NCo. 310 should also be used, and that C.P. 48-103 should be tried on the light soils.

Mr. Hebert was asked if C.P. 29-116 should still be grown in the area, to which he answered with a "BIG *NO.*" It was apparent from the expressions made that the group was both surprised and pleased at the manner in which Dr. Hebert used good sugar cane farmer style French.

Although Mr. Lester Davidson, U.S.D.A. Sugar Station, did not speak in French, he told the group in easy talking style that potash and phosphate were needed in general for the area. He told the group that because larger amounts of nitrogen are being used it is now necessary to use potash and phosphate if the full benefit of the nitrogen is to be realized.

Dr. René Steib, in good Vacherie style French, gave the group up-to-date information on the Stunting Disease. He covered the description, symptoms, and treatment of the disease. The group was told that the use of treated seed would give yield increases for several years before treatment would again be necessary. Dr. Steib discussed the cost of a heat treating unit.

What is being done about the Sugarcane Beetle was covered by Mr. Ralph Mathes of the U.S.D.A. Sugar Station. In a calm, impressive manner he told the group about tests he is conducting on Mr. Expadie Laperouse' property. He told the group that some of the chemicals used in the tests showed promise. His statement that bettle dam-

(Continued on page 246)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

"Log Jam" Broken

The "log jam" which has delayed action on the Sugar Bill, HR 7030, was broken Saturday, May 12, when House and Senate conferees unanimously agreed to a compromise on the 3 main points of difference between the two Bills. Those points were: (1) the length of the extension of the Sugar Act; (2) the percentage of increased demand in the United States allocated to domestic and foreign producers; and (3) the division of the foreign quota among the producing countries.

1. The Senate conferees receded on the length of the extension and adopted the four-year period in the House Bill instead of the six years as passed by the Senate.

2. The House conferees receded on the percentage allotted to domestic and foreign producers and adopted the Senate formula of 55% to domestic and 45% to foreign suppliers. The House would have divided the increase fifty-fifty.

3. A compromise was worked out on the share allotted to each foreign supplier on the basis of the percentage of total sugar shipments to the United States by Cuba and all full-duty countries.

Under the compromise agreement Cuba will receive 93.75% of the total quota for foreign countries minus the Philippine quota of 952,000 tons or 29.6% of the growth, beginning in 1957 and continuing for the life of the Act.

Both Bills provided the same quota, for the life of the extension, to the Republic of the Philippines (952,000 tons commercial weight) and both retained provisions of the current Act with respect to the division between Cuba and other foreign countries for the year 1956.

Mexico under the House Bill would have received 1.4%; under the Senate Bill 1.2%, and under the conference agreement will receive 1.2%.

Peru under the House Bill received 2.5%; under the Senate Bill 2.5% and under the conference agreement 2.3%.

Dominican Republic under the House Bill received 2.6%; under the Senate Bill 1.2%, and under the conference agreement 1.75%.

Other foreign suppliers under the House Bill receive 1.1%; under the Senate Bill 1.0% and under the conference agreement will receive 1.0%.

No objection to the conference report is expected in either the House or the Senate and the President should have the bill on his desk by Friday, May 18. The Administration looks with some favor on the compromise agreement and the President is expected to sign the Bill promptly when it is presented to him

The mainland cane sugar industry particularly, and the entire domestic industry generally, owe a great debt of gratitude to Representatives Willis and Boggs of Louisiana, Matthews of Florida and Hill of Colorado as well as to Senators Ellender and Long of Louisiana, Holland of Florida, and Bennett of Utah. All of these gentlemen worked diligently for the past two years to obtain increased quotas for domestic sugar producers. To them we give our heartfelt thanks for a tremendous job well done.

RECENT STUDIES CONDUCTED ON THE RATOON STUNTING DISEASE OF SUGARCANE IN LOUISIANA

R. J. Steib and S. J. P. Chilton

The ratoon stunting disease of sugarcane was first reported from Queensland, Australia in 1945 (7) and from Louisiana in 1953 (2, 3). Considerable work has been done on the disease by workers in Queensland and other foreign countries (5, 6, 7, 8, 9, 10, 19, 20, 21). In Louisiana, the initial work was aimed at finding the best heat treatment to use for the control of the disease (1, 11). The first studies conducted at the Louisiana Agricultural Experiment Station were to determine the tolerance of the different commercial and some unreleased varieties to different hot-air and hot-water treatments, the effect and prevalence of the disease in different varieties and the best temperature/time combination to use in controlling the disease without seriously reducing germination of the cane in the spring.

Before a heat treatment could be recommended in Louisiana, it was necessary to determine if the hot-water and hot-air treatments recommended by workers in Queensland, Australia for the control of the disease could be used in Louisiana (4, 7, 12, 13, 14, 22). In order to obtain as much information in as short a time as possible, a large number of different hot-water and hot-air treatments were used to treat a number of cane varieties (16, 18). Immediately after treatment the canes were planted in the greenhouse in comparison to untreated checks. Table 1 shows the results obtained when four varieties were treated with five hot-water treatments and one hot-air treatment. These results clearly show that there was a greater reduction in germination due to the use of hot-water and also it was found that there was an apparent delay in germination from all hot-water treatments as compared to the untreated checks. Reaction of the four leading commercial varieties in Louisiana to the hot-air treatment (54° C. for 8 hours—air temperature in the oven) is shown in Table 2. The average germination of the four varieties after treatment was found to be 91 percent of the untreated check. From these results and reaction of other varieties tested, it was felt that the hot-air treatment is the safest to use in Louisiana, until further comparative studies were

TABLE 1

Germination of four sugarcane varieties after treatment with either hot-air and hot-water (13 tests).

Treatment	No. Eyes Treated	No. Eyes Germinated	%. Eyes Germinated	% Germination of Check
52° C. - 1½ hrs.	795	221	28	31
52° C. - 1 hr.	795	394	50	56
51° C. - 2 hrs.	795	277	35	39
51° C. - 1½ hrs.	795	444	56	63
50° C. - 2 hrs.	795	459	58	65
54° C. - 8 hrs. (Hot-air)	921	736	80	91

made between the two treatments.

In order to obtain some information on the presence and effect of the disease in Louisiana, two tests were conducted on a small scale in 1953 (15). In one of these, one-eye seed pieces of nine varieties were treated in a small laboratory type constant temperature water bath for one hour at 52° C. and germinated in the greenhouse prior to planting in the field in comparison to untreated canes. Plant cane and 1st stubble yield comparisons between the treated and untreated cane showed that as plant cane, the average reduction for all varieties was 3.7 tons per acre or 18 percent; while, as 1st stubble, the loss was 16.4 tons or 37 percent, giving a total reduction for the two years of 20.1 tons per acre or 31 percent.

The second experiment was made to determine the effect of the expressed juice of different varieties chosen at random from the sugarcane breeding plots at Grand Isle, Louisiana on yield of C. P. 44-101 obtained from Grand Isle and thought to be free of the virus. Following inoculation of the seed pieces, they were planted in the field for comparison with cane not inoculated. Yield data taken from the plant cane and 1st stubble showed that there was a loss of 7.0 tons per acre or 15 percent less yield in the plant cane, and a 13 ton per acre or 21 percent less yield in the 1st stubble crop when the inoculated cane was compared with the uninoculated.

Before an experiment could be made to determine the effect of the disease on yield, it was necessary to use cane known to be effected with the virus and cane free of the virus, either by prior treatment or seed treated immediately before planting. By the fall of 1954, seed cane of C. P. 44-101 known to harbor the virus and known to be free of it, was available for testing (17). This seed was used in a test to determine the effect of different hot-air treatments on germination, yield and control of the disease in this variety. The cane was treated on September 14, using the following time/temperature combinations: 50° C. for 8 hours, 52° C. for 8 hours and 54° C. for 4, 6 and 8 hours. While treating the cane for this test, the air temperature used for any particular treatment, except for the treatments 54° C. for 4 and 6 hours, was set so as to give the desired temperature in the cane for at least the last two hours of the run. The canes were planted in replicated plots for comparison with cane free of the disease (treated the previous year), cane inoculated (seed treated the same year) and diseased cane. Plant cane weights taken the following year (shown in Table 3) showed that all heat treatments used gave a significant increase in yield over the diseased check. Increases in

(Continued on next page)

TABLE 2

Germination of four sugarcane varieties after treatment with hot-air at 54° C. for 8 hours (14 tests).

Variety	No. Eyes Treated	% Germination		% Germination of Check
		Untreated	Treated	
Co. 290	225	79	82	103
C.P. 34-120	210	90	77	85
C.P. 36-105	210	84	76	91
C.P. 44-101	276	96	84	87
Totals & Average	921	88	80	91

yield varied from 9.3 tons per acre for the cane treated at 54° C. for 4 hours, to 17.5 tons per acre for the cane treated at 50° C. for 8 hours. An examination of all the stalks from each treatment revealed the fact that none of the treatments completely controlled the disease. For example, out of 166 stalks examined from the plots receiving a treatment of 54° C. for 8 hours, which is considered the best treatment to use in Louisiana without seriously reducing germination, it was found that 15.7 percent of the stalks were diseased. In an attempt to determine why such a high percentage of the stalks were diseased, a test was made using stalks of C. P. 36-105 known to be diseased (17). Unlike the treatment procedure followed in the first test in which the box was fully loaded and only five points were checked for internal stalk temperatures; in this test, stalks of C. P. 36-105 known to be infected with the virus were treated under carefully controlled conditions. Only a small amount of cane was treated at one time and by using thermocouples, the air and internal cane temperature were carefully regulated throughout the treating period to make sure that all the material in the oven would receive a similar treatment. The following treatments were used: internal stalk temperatures of 49, 50, 51, 52, and 53° C. with a duration of 1, 2, 3, 4, 5 and 6 hours for each temperature. The canes were planted in the greenhouse in order to check on the effect of the various treatments on germination and disease control. Observations made four months after planting using discolorations found in mature and immature nodes as indicating the presence or absence of the disease, it was found that 50 percent of the plants treated at 49° C. for one hour were diseased; while plants treated for two hours showed no nodal discoloration, and plants treated at 50° C. for one hour were free of the disease. These results indicate that in order to obtain effective control with any particular hot-air treatment, it is essential that an even distribution of heat be obtained throughout the chamber.

In order to study the effect of the

TABLE 3

Effect of treating variety C. P. 44-101 with different hot-air treatments prior to planting on yield and control of the stunting disease in the plant cane crop.

	Yield				Disease Control	
Treatment	Tons/ Acre	Tons Inc.	Percent Increase	Sucrose	No. Stalks Examined	Percent Diseased
50° C. - 8 hrs.	39.5	17.5	79.5	11.42	190	15.3
52° C. - 8 hrs.	38.3	16.3	74.1	12.40	184	4.3
54° C. - 4 hrs.	31.3	9.3	42.3	12.88	170	50.6
54° C. - 6 hrs.	35.1	13.1	59.5	12.04	184	10.3
54° C. - 8 hrs.	35.7	13.7	62.3	11.75	166	15.7
Tr. + Inoc.	29.3	7.3	33.2	10.41	155	56.1
Dis.-free Ck.	34.5	12.5	56.8	11.53	172	0
Dis.-Check	22.0	—	—	12.83	114	100.0

L.S.D. 5% = 6.53 tons

ratoon stunting disease on yield of old varieties and those presently grown commercially in Louisiana, a yield trial was made in 1954, after enough disease-free seed became available (17). This was done by inoculating half of the seed pieces with juice taken from diseased stalks of Q. 28 and then planting the inoculated cane in replicated plots for comparison with disease-free cane. Weights taken of the plant cane showed that the innoculated plots of every variety used in the test gave a decrease in yield. A 10 ton per acre or 26.6 percent reduction with variety C. P. 33-224 was the highest and 2.7 ton per acre or 8.2 percent for C. P. 28-19 was the lowest reduction noted in the plant cane crop. The average reduction for the seven varieties tested was 6.4 tons per acre or 18.4 percent. The yield data are given in Table 4.

Table 5 summarizes the sucrose analyses of 27 different tests including 12 varieties in which a comparison is made between cane with and without the ratoon stunting disease. These analyses on the average seem to indicate that there may be some difference in sucrose between healthy and diseased cane but this on a statistical analysis was not significant. It is usual when yields go up for sucrose to drop to some extent.

Results of studies conducted over the past three years have shown that the ratoon stunting disease is rather widespread in canes grown commercially in Louisiana and significant increases in yield may be expected when cane with the disease is treated with either hot-air or hot-water. These studies have also shown that the hot-air treatment of 54° C. for 8 hours (air set so cane temperature is at 54° C. for the last two hours of the treatment), now being recommended, will completely eliminate the virus from the cane stalk if precautions are taken to see that all the cane in the oven reach the desired temperature.

Since under field conditions it may not be practical to insure 100 percent control of the disease with only one treatment, and because it is not apparently necessary to completely eliminate the disease from the seed material in order to improve the yield of a variety; it seems advisable, until a better treatment is

(Continued on next page)

TABLE 4

Effect of innoculating seed pieces of seven varieties free of the stunting disease with juice containing the stunting disease virus on yield of the plant cane.

Variety	Yield			
	Disease-free Check	Disease-free & Inoc.	Diff. in Tons	% Reduction due to Inoc.
C.P. 28-19	33.1	30.4	- 2.7	8.2
C.P. 29-320	30.9	25.1	- 5.8	18.8
C.P. 33-224	37.6	27.6	-10.0	26.6
C.P. 34-120	38.3	34.4	- 3.9	10.2
C.P. 36-105	38.7	28.9	- 9.8	25.3
C.P. 44-101	36.2	31.3	- 4.9	13.5
P.O.J. 213	28.6	21.4	- 7.2	25.2
Average	34.8	28.4	- 6.4	18.4

found, to continue using the present treatment and retreat the same cane for a few years until complete control of the disease is realized.

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TABLE 5

Summary of sucrose analyses of 12 varieties with and without the ratoon stunting disease.

Variety	No. of Tests*	Sucrose Analyses: Diseased Cane	Sucrose Analyses: Disease-free Cane	Difference
Co. 281	1	9.20	8.57	-0.63
Co. 290	3	10.06	9.86	-0.20
C.P. 28-19	2	11.77	12.04	+0.27
C.P. 29-116	1	11.85	11.74	-0.11
C.P. 29-320	2	12.30	11.73	-0.57
C.P. 33-224	2	10.86	11.00	+0.14
C.P. 34-120	3	12.10	11.50	-0.60
C.P. 36-105	5	11.85	11.45	-0.40
C.P. 44-101	5	12.31	11.06	-1.25
P.C.J. 213	1	9.41	9.24	-0.17
Q. 28	1	11.85	11.35	-0.50
La. Purple	1	9.80	9.85	+0.05
Average (all tests)		11.45	11.00	-0.45

* Each test is a composite sample of four different analyses.

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UP FRONT

(Continued from page 235)

DILATORY TACTICS ON THE PART OF THE DEPARTMENT OF AGRICULTURE IN REPORTING ON THE LEGISLATION. (3) DILATORY TACTICS ON THE PART OF THE CHAIRMAN OF THE COMMITTEE ON AGRICULTURE IN CALLING HEARINGS ON THE LEGISLATION. (4) LONG DRAWN OUT HEARINGS. (5) DIFFICULTY IN OBTAINING RULE FROM RULES COMMITTEE IN HOUSE OF REPRESENTATIVES. DESPITE THIS BILL WAS PASSED IN HOUSE BY OVERWHELMING MAJORITY. SINCE SENATE PASSAGE WE HAVE ENCOUNTERED FURTHER DIFFICULTIES IN (1) PREVAILING UPON CHAIRMAN COOLEY TO APPOINT CONFEREES AND (2) HAVING CHAIRMAN COOLEY CALL CONFERENCE TO AGREE UPON CONFERENCE REPORT. SINCE SENATOR BRYD'S RECOVERY HAVE TALKED TO CHAIRMAN COOLEY ALMOST EVERY DAY ABOUT THIS MATTER. ALTHOUGH HE HAD PREVIOUSLY ANNOUNCED THAT HE WOULD NOT BE ABLE TO CALL CONFERENCE UNTIL AFTER HIS PRIMARY ELECTION MAY 29 HE TOLD US TODAY THAT HE WAS REARRANGING HIS SCHEDULE IN AN EFFORT TO COMPLETE CONFERENCE EARLY NEXT WEEK. WE CAN ASSURE YOU THAT WE ARE WELL AWARE OF THE SERIOUSNESS OF THIS PROBLEM AND IF IT WERE IN OUR POWER ACTING ALONE, A SUGAR BILL WOULD HAVE BEEN PASSED TWO YEARS AGO. WE GREATLY REGRET THE DIFFICULTIES WHICH WE HAVE ENCOUNTERED AND WE ARE DOING EVERYTHING HUMANLY POSSIBLE TO OVERCOME THEM. WE ARE VERY GRATEFUL FOR YOUR TELEGRAM

(Continued on page 245)

NEW METHOD OF SAMPLING AND TRASH TESTING AS IS PRACTICED AT RACELAND FACTORY, GODCHAUX SUGARS, INC.

Ridley J. LeBlanc

Presented at Annual Meeting of American Society of Sugar Cane Technologists, Houma, La., February 28, 1956

We receive approximately 3,900-4,000 tons cane daily. Of this amount 3,100-3,200 tons is trucked. The remainder is by rail plus our local administration cane which is delivered to the factory by tractor-trailer. Our method of sampling the cane for trash, sucrose, etc. is as follows:

As the cane is received, whether it be Individual grower of Administration Cane, it is weighed on either of two 50 ft. platform scales, with the weight recorded under the Shipper's name on scale-house record book. The weigher then gives this load of Cane an identification number and records this number on sample tag that he passes on to Cane Inspector. This is the only means of identifying either Cane or sample from scale on through process of sampling and cleaning. The inspector inspects each load of cane from both sides and back of Trailer, and attempts to select a bundle representative of the load. He directs this bundle to be unloaded onto a conventional cane cart drawn by a conventional Tractor. The tag is given the Tractor driver who in turn passes it on to the Foreman or clerk of the Trash testing crew. The sample bundle is removed from cart and placed on Feeder-table handling all sample cane. When this sample bundle reaches the correct sampling location, the bundle now being opened, a sample weighing between 60 and 75 lbs. is taken with a Mechanical Grab, transferred to a previously tared galvanized pan and weighed on a Dial scale calibrated in lbs. and ozs. The weight of the pan is deducted and the weight of gross cane recorded on sample tag. The cane is now dumped from the Pan onto a table just ahead of the cleaners, the tag given the Foreman or Clerk again, and the cane cleaned. The clean cane is placed in another previously tare-weighed pan, weighed on a second Dial scale, and the net weight of cane recorded on sample tag. The tag is retained by the Clerk and the Cane thrown onto carrier feeding mills. From the results recorded on sample-tag, the Clerk calculates the weight and percentage of Trash and files the tag temporarily. At the end of the hauling day, a sample average of the percentage of Trash is determined and recorded on the last tag of the group of tags for each grower which accompanies the composited sucrose sample to the Laboratory. The simple average is then copied on the Laboratory Individual Test Sheets, and tags liled permanently. While a simple average of the entire number of tests for each Grower is used, a portion of each trash sampled cane is collected and composited. This sample is sent to the laboratory at the end of the Grower's hauling day accompanied by all sample tags collected during the day of each Grower. When the sucrose sample is taken, which is merely a few stalks from the Pan handling gross cane prior to weighing on first Dial scale, the stalks are placed in a standing position and held together by a piece of light chain with snap fastener with numbered metal tag attached. This, we found, was an improvement over the bin method of temporarily storing sampled cane. The first sample collected for each Grower daily is given the identification number previously referred to, while each succeeding sample for each

grower for any one day carries the index number followed with a letter; thus (1) (1a) (1b), etc. The letters denoting whether it is second, third or fourth trash sample collected, etc. While sampling and Trash testing goes on all during the hauling day, the samples are analyzed for Brix, Sucrose and Purity beginning at the end of each Grower's hauling day. We have two people doing Juice Analyses who work from 4:00 P.M. until 12: P.M. Beginning at 4:00 P.M. the samples are ground on a 10" x 15" Hydraulic Pressure three roll mill, the juice collected and analyzed. The sample number, the percentage of Trash taken from Sample-tag and results are recorded on Daily Individual Test Sheets, and summed or averaged at end of day.

The change from sampling by hand to sampling mechanically has changed the results obtained to a more uniform figure. We actually experience fewer of the very high and low tests, we used to obtain, making the general average more representative than formerly. We have been using the mechanical grab method of sampling now for two grinding seasons, and apart from more economical operation if nothing else is gained, it makes the rather unreliable method of Testing appear more business like, to say the least. The average Trash determination the last year of hand-sampling was 3.95% as compared with mechanical-grab sampling the past two years of 7.37 and 5.19%.

While we feel the above method is fairer and more efficient, we have found also that cost of operation has been reduced over the former method. In the old method we employed (12) men as compared to (9) men in the new method. The method is simple and methodical and on various occasions the Growers have either actually run their own samples or have closely supervised operations to their satisfaction.

Considering the reduced cost of operation we have experienced increased efficiency as well as increased rapidity of handling a large number of samples. We sincerely recommend the above method of Sampling and Trash Testing to all concerned.

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UP FRONT

(Continued from page 243)

AND WILL KEEP YOU ADVISED.

Then we wired back—

WIRE GREATLY APPRECIATED. INDUSTRY ENCOURAGED ON LEARNING THAT CONGRESSMAN COOLEY HAS ADVISED THAT HE WILL REARRANGE HIS SCHEDULE IN AN EFFORT TO COMPLETE CONFERENCE ON THE SUGAR BILL EARLY NEXT WEEK. WE FERVENTLY HOPE THIS IS NOT ANOTHER STALLING MANEUVER ON HIS PART. SUGGEST YOU ASK COOLEY TO PUBLICLY ANNOUNCE TODAY THE EXACT DATE CONFERENCE WILL BE HELD.

To which they replied—

THE BEST THAT WE CAN GET OUT OF COOLEY IS THAT HE WILL REVIEW HIS CALENDAR AND ATTEMPT FIRST CONFERENCE TUESDAY OR WEDNESDAY OF NEXT WEEK SUGGEST YOU INTEREST OTHER PRODUCING AREAS IN CONTACTING HIM IMMEDIATELY.

In the meantime, Senator Russell Long was writing the following letter dated May 3rd:

"I can well understand the irritation and frustration of the sugarcane producers and processors in Louisiana which you describe in your telegram of May 2.

As you know, the Chairman of the House Agriculture Committee has caused delay and difficulty at every turn for those of us who

(Continued on next page)

were attempting to provide needed relief for the domestic sugar industry. Last year he delayed hearings and action by the House Agriculture Committee until it was impossible to get Senate approval before the end of the session.

You will agree, I am sure, that the Senate acted this year with promptness and that the Senate bill is a very much better bill than that passed by the House. The Senate acted on February 8 and promptly appointed its conferees. It was the responsibility of the Chairman of the House Agriculture Committee to move the appointment of House conferees. This was not done until March 15, a period of more than five weeks. Even after conferees were appointed it has not proved possible to get a meeting of the conferees thus far.

I can assure you that the delays have been almost entirely due to the reluctance of the House conferees to meet. Although I am not one of the conferees, I shall continue to press for an early meeting; and I know that the members of the Louisiana delegation in the House are also making every effort to induce the House conferees to meet with the Senate conferees. I have been advised today that there *may* be a meeting next week, and I sincerely hope that agreement will be reached soon.

With all good wishes, I am
Sincerely yours,
s/ RUSSELL LONG"

A letter from Senator Ellender pointing out some of the obstacles encountered by the Sugar Bill, and his efforts to overcome them, was written on May 5th.

On May 9th Congressmen Boggs and Willis wired—

CHAIRMAN HAROLD COOLEY TODAY SCHEDULED CONFERENCE WITH SENATE FINANCE COMMITTEE FOR FRIDAY MORNING TO WORK OUT FINAL VERSION OF EXTENSION OF THE SUGAR ACT. IT IS HOPED THAT CONFEREES CAN AGREE IN SESSIONS ON FRIDAY OR SATURDAY AND THAT FINAL VERSION OF BILL WILL BE APPROVED IN THE VERY NEAR FUTURE.

On May 10th we wrote Senators Ellender and Long the following letter—

"Your letter of (date) has been received and greatly appreciated. Messrs. Boggs and Willis wired yesterday that the conference on the Sugar Bill had been set for May 11th and we are, of course, delighted at this encouraging news.

Let us hope that the Conference will be a speedy one and that by Monday night the long fight that you and the entire Louisiana Congressional Delegation have so ably waged in our behalf will have been brought to a successful conclusion."

May 12th—

Conference agrees on Sugar Bill containing 55% Domestic—45% Foreign quota increase provisions, which were in Senate Bill and which were more favorable to us than the House Bill provisions.

May 14th—

Time has run out and we must go to press. We confidently expect to be able to print the New Sugar Bill, as signed by the President, in the next issue of *The Sugar Bulletin.*

———o———

IN THE FIELD

(Continued from page 236)

age, for all practical purposes, was over for this year, was most encouraging. It should be mentioned that it is because of a request by the farmers in this area that the

Beetle Control experiments are being conducted.

Mr. Stanley Angelle, County Agent of St. Martin Parish made an excellent Master of Ceremonies. He not only translated into French certain points made by some of the speakers, but by his casual manner he encouraged questions from the audience.

The large number of questions asked each of the speakers was proof of the success of the meeting. The fact that the farmers asked if another meeting could be held before planting time is further proof that farmers are interested and want to hear from the men doing research. That many farmers stayed around after the meeting broke-up to talk to the speakers about Johnson Grass control and other subjects is, in the writer's opinion, proof of interests, and also proof that other meetings could be held and other subjects covered.

It was certainly nice of Mr. Jack Lowrie, Mr. Norman Boudreaux and the whole of the St. John organization to make all arrangements for the Barbecue and other refreshments.

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In This Issue

The Right-To-Work 251

Up Front With The League 251
President Signs The Sugar Act—Apropo Amendments—Probable Effects—Gasoline Tax Refund

In The Field With Lloyd L. Lauden 252
Television

In Washington With Joe Ferris 253
Sugar Bill To Become Law—International Sugar Meeting—Florida Wage-Price Hearing

Some Characteristics of Louisiana Raw Sugar 254

Sugar Market Statistics Through May 25, 1956 258

Official Prices 1955-56 Season 259

Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
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Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

THE RIGHT TO WORK

A Statement by F. A. Graugnard, Jr. of St. James, Louisiana, President of the American Sugar Cane League of the U. S. A., Inc.

Farmers want the Right-to-Work Act now on our statute books to remain a law of our State. They oppose the repeal of this Act as proposed by Senate Bill 51. They oppose the replacement of the present Right-to-Work Act with a watered-down, meaningless Act as proposed by Senate Bill 52, which would apply to only farm workers and not to other laborers such as those who process farm products.

The present Right-to-Work Act does nothing more than give each individual the legal right to decide for himself whether to join or not join a union. That is a basic privilege every person should have.

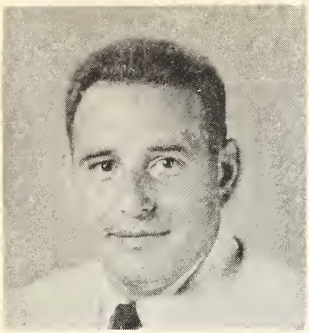
We believe the right to join or not join a union is a moral right of every individual. Those who profess to believe that the Right-to-Work Act is immoral now indicate they are willing to be half-moral and half-immoral by proposing that the Act apply to some workers but not to others.

Labor union officials want the power to force workers to join unions. They want complete control of laborers. They even want the power to force laborers to go on strike against their will, and they will have that power if the Right-to-Work Law is repealed.

Farmers and farm workers will be at the complete mercy of union officials if the present Right-to-Work Act is repealed. A Right-to-Work Act applicable only to farm workers would serve no purpose. There would be no point in harvesting sugar cane if the cane could not be ground, and this could be the case if the cane mill workers were not protected by the Right-to-Work Act. The same thing applies to farmers who produce other crops.

Legislators from farming areas will do farmers and farm workers an injustice by voting to restrict the Right-to-Work principle to only farm laborers. We recommend the defeat of Senate Bills 51 and 52.

UP FRONT
(Continued on page 260)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Television

The Louisiana Educational Television Commission recently completed a teletranscription about the Breeding of Sugar Cane.

Mr. E. W. Bundy, Executive Secretary of the Commission, and Mr. Lon Keeley, Assistant to the Secretary, produced the program using a Dage Mobile Unit. This unit was driven near the greenhouses to show the full story of how new sugar cane varieties are developed.

Dr. S. J. P. Chilton, Head of the Department of Botany and Plant Pathology, L.S.U., and the writer explained how the United States Department of Agriculture, Louisiana Agricultural Experiment Station, and the American Sugar Cane League work together to produce new and better sugar cane varieties for the Louisiana sugar industry.

The program shows how sugar cane varieties are induced to flower at Baton Rouge, using photoperiod houses. Photoperiod houses are light-tight chambers, or dark chambers where cane varieties are moved in and out on a very exacting schedule, reducing the light exposure one minute each day for a period of about 65 days. This treatment simulates light periods in Hawaii, where sugar cane flowers abundantly, and induces flowering in sugar cane in Louisiana. Fortunately, several tassels were still available to show how sugar cane varieties are crossed. The mechanics of making the cross was demonstrated in the large greenhouse on the L.S.U. Experiment Station. Dr. Chilton explained how some canes with tassels are placed in a cold chamber to prevent pollen from shedding. The canes after being exposed to the cold chamber are taken into the greenhouse and used as female parents.

The program also shows how the very tiny seed are planted in a shallow pan. In one pan about 16 x 24 inches were 300 seedlings, each a separate and distinct variety about 4 or 5 inches tall. At about this stage the individual seedlings are transplanted to small 2 inch earthen pots. The large seedling greenhouse was shown where about 50,000 potted seedlings, are grown from true seed each year. Each one of the 50,000 is a separate and distinct variety.

How Mosaic susceptible plants are eliminated was demonstrated. Each seedling is innoculated with juice of cane leaves having Mosaic. The seedlings which develop Mosaic are susceptible and are discarded. As much as 30% of the seedlings are eliminated by innoculation with the Mosaic virus.

How the plants are handled after removal to the field was covered by discussion. The search and selection of the good varieties from many thousands of seedlings planted both at the U.S.D.A. Houma Station and the L.S.U. Station is a long hard job.

In the selection and testing program the best of every year's seedlings are selected for further study.

(Continued on page 261)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Sugar Bill to Become Law

Favorable White House action on the Sugar Bill is momentarily expected and by press time the bill should have become a public law.

A record was established on Thursday, May 17th when both the Senate and the House adopted a conference report on H. R. 7030 in the course of a couple of hours. However, because the House took a long week-end recess before the Senate acted on the conferee's report, engrossment of the bill was delayed until Monday, May 21st; then because the Bureau of the Budget had not analyzed the compromise agreed upon by the House and Senate conferees, the bill was referred to that Bureau for study. The Budget Bureau's report will be attached to the bill and both forwarded to the White House. After its arrival at the Executive Offices, the President has ten days exclusive of Sundays and holidays (to June 1) in which to affix his signature to the bill. If he fails to sign the bill within the required ten days, it becomes a law anyway. In the case of the Sugar Bill however, the compromise finally adopted was proposed by the administration and the President's approval will be routine.

International Sugar Meeting

A meeting of representatives from all importing and exporting sugar countries was convened Monday, May 21st in the United Nations Building, New York City.

Delegates from practically every country in the world unanimously elected Baron Paul Kronacker, prominent Belgian industrialist, Chairman of the Conference.

Mr. Lopez Castro of Cuba was unanimously elected First Vice Chairman, and Mr. Gopala Menon of India was unanimously elected Second Vice Chairman.

Assistant Secretary of Agriculture, Mr. Marvin L. McLain, heads the United States delegation, and Lawrence Myers, Director of the Sugar Division is his alternate.

Mr. Paul Callanan represents the State department.

Industry advisors to the delegation are:

Wallace C. Kemper, President, Southdown Sugars, Inc., New Orleans, Louisiana.

Ernest W. Greene, Vice President, Hawaiian Sugar Planters Assn. Washington, D. C.

Dudley Smith, Vice President, Puerto Rican Sugar Producers Assn. Washington D. C.

H. M. Baldrige, General Counsel, U. S. Cane Sugar Refiners Assn. Washington, D. C.

Robert H. Shields, President and General Counsel, U. S. Beet Sugar Assn. Washington D. C.

Luis Rivera Santos, Secretary of Agriculture of Puerto Rico.

Slater W. Miller, Assistant Vice President, Hawaiian Sugar Planters Assn. Washington, D. C.

Richard Blake, Executive Secretary, Western Beet Growers, Assoc. Greely, Colorado.

Gordon Lyons, Executive Secretary, California Beet Growers, Assoc. San Francisco, California.

(Continued on page 261)

SOME CHARACTERISTICS OF LOUISIANA RAW SUGARS

by R. T. Balch and J. J. Friloux, Sugarcane Products Laboratory, Houma, Louisiana*

The refining qualities of Louisiana raw sugars have deteriorated over the past decade to the extent that, instead of being preferred by refiners in recent years, complaints of poor quality are frequently heard. The exact factors responsible for this condition have not been fully established as several changes in field and factory operations have, undoubtedly, been contributory.

Firstly, there have been released for commercial planting a succession of new varieties of sugarcane. This change of varieties has not been a serious factor, however, as none of the canes so far released has been shown to be refractory when properly prepared for milling. Of course, factory experiences have demonstrated the superiority of some of these varieties over others, in certain respects. A program of testing new varieties for their processing characteristics on a pilot plant scale has been initiated[1,2] to guard against the introduction of canes which may have undesirable processing characteristics.

Secondly, mechanical harvesting of the cane crop has fully replaced hand harvesting, for all practical purposes. Compared to old standards, mill cane is no longer so well prepared even under the best of conditions. For instance, average mechanical topping does not equal hand-topping of the individual stalks at the optimum point, and firing to remove the leafy trash seldom equals hand-stripping. Rainy weather imposes additional hazards by setting the stage for the delivery of stale, dirty and unusually trashy cane, which can very adversely affect the quality of the cane and sugar.

Gummy fermentation of burned cane induced by warm, wet weather[3] if allowed, will still more increase processing difficulties.

Thirdly, continuous clarifiers and vacuum mud filters have largely replaced settling tanks and plate and frame presses. The capacity of these units are, of course, correlated with the continuous operations which precede and follow juice clarification. Unfortunately, however, juice processing operations often become so badly unbalanced during extended periods of wet weather that grinding rates have to be drastically reduced or other undesirable measures taken. The reasons for this unbalancing are not known, for certain, but much of the trouble apparently centers around inefficient elimination and recycling excessive amounts of insoluble solids. During such periods of unsatisfactory operation, the quality of clarified juices and of sugar produced from them suffer. There has been a tendency toward providing an excess of clarifier and filtering capacities to care for these peak loads which ought to alleviate the situation somewhat in the particular factories making these improvements.

The lack of published information on the refining characteristics of modern Louisiana raw sugars prompted the writers to study some of the important ones and to find the factors responsible for them. This report relates the findings which have accumulated over the past four operating seasons. Such a long period of observation was required to obtain the effects of contrasting weather conditions.

Experimental

Samples: Weekly composite samples of raw sugars were obtained from a number of factories quite well distributed over the producing area. Typical Louisiana operations were represented in this selection. Represented were straight raw sugar factories, a producer of raw and turbinado sugars and producers of

raw and vegetable-carbon refined sugars. The latter furnished the washed raws which were included in this survey during the past two seasons. In addition to the sugars, weekly composite samples of evaporator sirups were collected during the 1952 and 1953 seasons for special examination.

Analytical Methods: Starch was determined in sirups and sugars by a method previously described by one of the writers.[4]

Phosphorus was determined in the sirups by a colorimetric procedure based upon the method of Troug and Meyer[5] directly on the sirups for inorganic P_2O_5 and on and acid (HCl) solution of the ash for total P_2O_5; organic P_2O_5 was obtained by difference.

Wax was determined on the sugars using a trapping procedure on water solutions of the product, followed by extraction of the resulting filter cake.

Color[6] (attenuation index), turbidity,[7] and sediment determinations were usually made on portions of a single sugar solution.

Filtration tests were made on 60% sugar solutions employing a Dawson type pressure filter.[8] The principles of this filter are very similar to those of the Johns-Manville bomb filter described by Cummins and Weymouth.[9] The filtrations were made at constant, 20# pressure and 85°C. through 1 sq. in. new cotton-twill filter cloth aided by 1% (on weight of sugar) Standard Filter-cel.† The total weight of filtrate obtained in exactly 30 min., corrected for the hold-up in the filter leaf and discharge tube, was taken as a measure of filterability. The filter-aid was kept in uniform suspension with a constant-speed, motor-driven stirrer driven at a speed which did not materially erode the cake. Single tests were usually made, as duplicates when run, usually checked within 1 or 2% of the mean value which is well within the precision considered acceptable for this test.[10]

The filtration values are expressed in grams and in percentages of a standard sugar solution. The selection of a standard sugar for a filtration test has always posed a problem. An arbitrary rate, representing a good filtering raw sugar, is used in the Elliott test[11] but such a procedure was not satisfactory in this case. Refined, granulated sugar has been suggested as a standard but different lots of such sugar have been found to vary between such wide limits in filterability, as to make them unsatisfactory for this purpose. The principal reason for this behavior of refined sugars is probably due to the fact that traces of salts have a profound influence on the filtering characteristics of the filter-aid.[12] Since the once-filtered raw sugar solutions resulting from filtration tests, gave a constant filtration value on a repeat test regardless of its initial rate, a composite of such filtrates was used as a standard for comparison. This value was found to be 280 grams under the conditions used throughout this study and was thus taken as 100%. Differences in filtration rates based on this scale are significant when they exceed 1%. Raws of good refining qualities should probably have at least a 50% rating and washed raws about 70%.

Results

The data accumulated over the four seasons are summarized in Tables 1 and 2 and in Figure 1.

Referring to Table 1, the inorganic phosphate content of the sirups is a good index of the efficiency of the liming operation in clarification. Raw juices contain, on the average, about 0.4% P_2O_5 on solids; this value is reduced by simple defecation under usual Louisiana factory practices to a range of 0.03% to 0.05%. The worst filtering sugar was obtained from factory No. 5 which purposely carried a low lime clarification, shown by a high residual P_2O_5 content of its sirups. It is significant that the wet weather and difficult clarification exper-

(Continued on next page)

ienced during the 1953 season did not force the factories to reduce materially the degree of liming which would have been indicated by larger P_2O_5 contents.

The organic P_2O_5 represents soluble phosphorus compounds of no value in clarification. This value often increases from raw to clarified juice indicating that some of the insoluble forms initially present are not entirely stable.[13]

The starch content of sirups is a measure of the amount present in the raw juices from which they are derived. Little or no starch is eliminated by defecation.[14] The starch content of the 1953 sirups was consistently higher than that of the 1952 samples. The lack of a killing freeze (until mid-December) during this season was responsible for this result. In 1952, vegetative growth of the cane was stopped by a mild freeze occurring on October 29 and 30; the cane was further damaged by later freezes, one in November and others in December. However, the cane was not so badly damaged this season as during the 1951 season which experienced more severe temperatures. As the starch content of the sugars follows closely the starch in sirups, the starch in the 1951 sirups was at a lower level than in 1952.

The variations in the wax content of the sugars for the different years do not appear significant and the determination was omitted for the 1954 samples. The amount of crude wax is normally of about the same order as the starch. More than 50% of the wax is eliminated in affination in contrast to only about 30% for starch. Wax is thus more a surface contaminant than starch.

The mineral content of raw sugar depends principally upon the mineral content of juice, and to some extent upon processing methods.[15] The detailed data showed the sugars from every factory produced in 1953 to have a higher ash content than those produced in 1952 or in 1954. As the season progressed, the mineral matter increased, which reflected closely the increasingly difficult harvesting operations that were encountered and faulty trash removal. By contrast, the 1952 season was almost ideal as the early freezes dessicated the leafy matter and dry weather made burning easy and effective. The 1954 season was also dry and very favorable for harvesting operations. Close to 70% of ash in raws sugars is removed by affination. The ash content of washed sugars followed closely that of the raws, as might be expected.

Sediment in sugars varied over wide limits between samples from the same as well as from different sources. Affination removed little or none of the sediment indicating that this material is held by the mat of crystals in contrifuging. As this material has no known serious effect either on filtration of sugar liquors or other processing operations, its presence can be ignored in assessing refining quality.

Average sediment and turbidity values follow each other rather closely for any given season. However, there is no constant ratio between these two types of insoluble impurities. Both values increased with the advance of the season in 1953 but held fairly uniform during the 1951, 1952, and 1954 seasons, again reflecting the differences in harvesting conditions. Turbidity values were appreciably improved by affination, in distinct contrast to sediment values.

The color of sugars is influenced by such factors as variety of cane, character of the natural pigments, degree of liming and heating and the amount, type and condition of extraneous plant material milled with the cane. Leaves and tops contribute much coloring matter and other undesirable nonsugars to mill juices and succeeding products.[16] The relative freedom of the 1951 and 1952 cane from green trash and tops was responsible for a progressive improvement in sugar color as the season advanced. The average

color of the 1954 sugars remained fairly constant through the season. By contrast, the color of the 1953 sugars progressively increased, as cane cleaning became more difficult. The color of washed sugars roughly followed the pattern of the raw sugars but at about half the level.

Unfavorable harvesting conditions, white not solely responsible for poor filtering sugars, have a pronounced effect on their quality. The 1953 sugars became increasingly difficult to filter with the advance of the season, reflecting once more a progressive deterioration in the quality of cane that was milled. The sugars produced in 1952 and 1954 (excepting 1st week, which was rainy) had about the same average filtering rate, indicating that predominately dry weather is important and that artificial drying of leafy matter by freezing is not essential to delivering "clean" cane to the factories.

Sugars from different factories varied considerably in filterability. This indicates that factors other than cane quality have an important bearing on the quality of raw sugars. What may be at fault at those factories which consistently produced poor filtering sugars, was not determined, as this matter was beyond the province of this survey.

The filterability of washed sugar followed quite closely that of the raw sugars from which they were obtained. It is interesting to note in Figure 1, which plots average filtration values of all the sugars, by weeks, that many of the washed sugars produced in 1953 had a filtering rate no better than the average raws produced in either 1952 or 1954.

Discussion and Conclusions

The results presented demonstrate that the quality of Louisiana raw sugars varies greatly from season to season. The best sugars were produced under conditions which favor the delivery of clean, well-topped cane, as was to be expected. With present harvesting methods, this requires a season with dry weather, with or without light freezes which aid in desiccating green leafy matter prior to burning. Conversely, bad filtering sugars can be expected during periods of wet weather which prevent efficient removal of trash. It is also quite common practice to top high purity cane high, and low purity can low with machine harvesting, which provide additional factors affecting the quality of mill cane.

No study was made of the structure or size of the crystals comprising the samples analyzed in this survey although these are important factors influencing their refining qualities. Faulty crystal structure and hardness can cause poor affination and undue loss of sugar in washing. Undoubtedly, poor crystal size and lack of uniformity were faults which were represented but which can be corrected by proper sugar-boiling techniques.

It is also obvious that good juice clarification and good quality cane are other essential elements upon which easy refining sugars depend. It has been shown that weather can so seriously hamper harvesting operations employing present methods that delivery of good, clean cane is impossible. This problem deserves the most serious consideration of all parties concerned because a radical departure from customary harvesting methods will be required for its solution.

Summary

Based on common knowledge and the results of this study, production of good refining sugars is dependent upon good quality cane, good juice clarification, and good sugar boiling. Rainy weather militates against the delivery of clean cane with the present system of cane harvesting so it can thus be considered a serious hazard in producing good refining sugars. This situation will continue so long as the delivery of clean cane to the factories is prevented by foul weather. The results indicate that some factories need to

(Continued on next page)

improve their operations, also, since the quality of their sugars under good weather conditions remains relatively poor.

Acknowledgements

The authors are grateful for the generous assistance of the management and personnel of several factories, particularly of the South Coast Corporation and Southdown Sugars, Incorporated of Houma, La. for the faithful collection and gathering of the many samples of sugars and sirups examined in the course of this investigation.

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[14] Balch, R. T. and Friloux, J. J., Sugar J. **17**, No. 5, 22 (1954).

[15] Fort, C. A., Proc. Intern. Soc. Sugar Cane Technol., 6th Congr. **1938**, 1005-18.

[16] Balch, R. T. and Broeg, C. B., Sugar **43**, No. 12, 31 (1948).

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* One of the laboratories of the Southern Utilization Research Branch, Agricultural Research Service, U. S. Department of Agriculture.

† Standard Filtercel is a product of the Johns Manville Company; mention of this product is not intended as a recommendation of it over similar products made by others.

SUGAR MARKET STATISTICS THROUGH MAY 25, 1956

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.00	6.05	5.78
QUOTA RAWS DELIVERED NEW ORLEANS	5.94	6.01	5.76
WORLD SPOT RAWS (In Cuba)	3.34	3.39	3.32

SUGAR FUTURES No. 6
(Closing Bid Prices)

	July	Sept.	Nov.
Today	5.53	5.56	5.59
1 Month Ago	5.55	5.58	5.58
1 Year Ago	5.54	5.59	5.61

OFFSHORE RECEIPTS AT NEW ORLEANS
(Long Tons, 2,240 lbs.)

	To Date 1956	Same Date 1955
American	142,510 tons	156,237 tons
Godchaux	96,396 tons	89,291 tons
Colonial	75,957 tons	85,782 tons
Henderson	48,894 tons	38,850 tons
Southdown	20,598 tons	7,740 tons
South Coast	28,526 tons	16,516 tons
Supreme	46,835 tons	32,556 tons
Totals	459,716 tons	426,972 tons

OFFICIAL PRICES 1955-56 SEASON

The following letter was mailed to all Louisiana sugar mills by the Louisiana ASC office on April 27th confirming the prices issued by the Louisiana Sugar Exchange during the 1955-56 Louisiana Pricing Period.

The Pricing Period began on Friday, October 7, 1955 and ended on Thursday, February 23, 1956 for Blackstrap Molasses and on Thursday, April 26, 1956 for Raw Sugar.

Week ending October 13, 1955
Raws 6.00, Blackstrap 9.75
Week ending October 20, 1955
Raws 5.99, Blackstrap 9.75
Week ending October 27, 1955
Raws 5.96, Blackstrap 9.75
Week ending November 3, 1955
Raws 5.95, Blackstrap 9.845
Week ending November 10, 1955
Raws 5.86, Blackstrap 10.00
Week ending November 17, 1955
Raws 5.85, Blackstrap 10.00
Week ending November 24, 1955
Raws 5.91, Blackstrap 10.00
Week ending December 1, 1955
Raws 5.94, Blackstrap 10.00
Week ending December 8, 1955
Raws 5.81, Blackstrap 10.15
Week ending December 15, 1955
Raws 5.77, Blackstrap 10.25
Week ending December 22, 1955
Raws 5.79, Blackstrap 10.40
Week ending December 29, 1955
Raws 5.80, Blackstrap 10.50
Week ending January 5, 1956
Raws 5.80, Blackstrap 11.00
Week ending January 12, 1956
Raws 5.81, Blackstrap 11.00
Week ending January 19, 1956
Raws 5.86, Blackstrap 11.20
Week ending January 26, 1956
Raws 5.87, Blackstrap 12.00
Week ending February 2, 1956
Raws 5.84, Blackstrap 12.50
Week ending February 9, 1956
Raws 5.80, Blackstrap 12.50
Week ending February 16, 1956
Raws 5.85, Blackstrap 12.50
Week ending February 23, 1956
Raws 5.87, Blackstrap 12.50
Week ending March 1, 1956
Raws 5.88
Week ending March 8, 1956
Raws 5.95
Week ending March 15, 1956
Raws 5.97
Week ending March 22, 1956
Raws 5.91
Week ending March 29, 1956
Raws 5.93
Week ending April 5, 1956
Raws 5.92
Week ending April 12, 1956
Raws 5.99
Week ending April 19, 1956
Raws 6.01
Week ending April 26, 1956
Raws 6.02

The season's average price of raw sugar is 5.8934 cents per pound.

The prices of standard sugar cane for mills located in the three freight areas are as follows:

(a) 6.224 dollars per standard ton for all mills except those located in the areas defined in (b) and (c) below:

(b) 6.144 dollars per standard ton for mills located north of Bayou Goula between the Atchafalaya and Mississippi rivers and southeast of New Iberia west of the Atchafalaya river.

(c) 6.091 dollars per standard ton for mills located north and west of New Iberia west of the Atchafalaya river.

The season's average price of blackstrap molasses for the period Oct. 7, 1955 through Feb. 23, 1956, is 10.77975 cents per gallon and the molasses bonus is 17.207 cents per actual net ton of sugar cane.

UP FRONT

(Continued from page 251)

The President Signs The Sugar Act

At 9:05 A.M. (C.S.T.) on the morning of May 29th 1956 President Eisenhower signed the new Sugar Bill and the long, drawnout fight to improve the position of the Domestic Sugar Industry was brought to a successful conclusion.

There were, of course, many people both in and out of public life who worked for the passage of the Sugar Bill and we are grateful to all of them. We feel, however, that the Louisiana Sugar Industry owes a special dept of gratitude to Wallace Kemper, Chairman of the Legislative Committee of the American Sugar Cane League; to Hale Boggs and Ed Willis, the Louisiana Congressmen who spear-headed the fight in the House, and to Senators Ellender and Long, who championed our cause in the Senate. Without their untiring work the opposition, which, strangely, appeared to be headed by Congressman Cooley of North Carolina, would probably have emasculated the Legislation.

We do not have the complete text of the revised Sugar Act at this writing. We believe, however, that the following two paragraphs, taken from the Conference Report, indicate the principal changes in the Act effecting the Domestic Sugar Industry.

Apropo Amendments

Section 202(a) of such Act is amended to read as follows:

"(a)(1) For domestic sugar-producing areas by apportioning among such areas four million four hundred and forty-four thousand short tons, raw value, as follows:

Area	Short tons, raw value
Domestic beet sugar	1,800,000
Mainland cane sugar	500,000
Hawaii	1,052,000
Puerto Rico	1,080,000
Virgin Islands	12,000

"(2) To the above total of four million four hundred forty-four thousand short tons, raw value, there shall be added an amount equal to 55 per centum of the amount by which the Secretary's determination of requirements of consumers in the continental United States for the calendar year exceeds *eight million three hundred and fifty thousand short tons, raw value.* Such additional amount shall be apportioned among and added to the quotas established under paragraph (1) of this subsection for such domestic sugar-producing areas, respectively, as follows: (A) The first one hundred sixty-five thousand short tons, raw value, or any part thereof, by which quotas for the domestic areas are so increased shall be apportioned 51.5 per centum to the domestic beet sugar area and 48.5 per centum to the mainland cane sugar area; (B) the next twenty thousand short tons, raw value, or any part thereof, by which such quotas are so increased shall be apportioned to Puerto Rico; (C) the next three thousand short tons, raw value, or any part thereof, by which such quotas are so increased shall be apportioned to the Virgin Islands; (D) any additional amount shall be apportioned on the basis of the quotas established in paragraph (1) of this subsection as adjusted by subparagraphs (A), (B), and (C) of this paragraph (2)."

The second sentence of section 204(a) of such Act is amended by inserting before the period at the end thereof a colon and the following: "Provided, That any deficit in any domestic sugar-producing area occurring by reason of inability to market that part of the quota for such area allotted under the provisions of section 202(a)(2) shall first be prorated to other domestic areas on the basis of the quotas then in effect".

(b) The last paragraph of section 204(a) of such Act is amended by inserting before the period at the end thereof a semicolon and the flolowing: "except that in the case

of proration of any such deficit in any domestic sugar-producing area occurring by reason of inability to market that part of the quota for such area allotted under and by reason of section 202(a)(2), the Secretary shall apportion the unfilled amount on such basis and to such other domestic areas as he determines is required to fill such deficit, and if he finds that no domestic area will be able to supply such unfilled amount, he shall add it to the quota for Cuba".

Mr. Durbin has analyzed the effect of the new Sugar Act on the Mainland Cane Area (Louisiana and Florida) quota as follows:

Probable Effects

Consumption Estimate	Quota Increase land Cane[1]	No.1 Estimates of Years[2]	No. 2 Estimates of Years[2]
8,450,000	26,675		
8,500,000	40,012		
8,550,000	53,350	1956	
8,600,000	66,687		
8,650,000	80,025		1956
8,700,000	80,588	1957	
8,750,000	84,031		
8,800,000	87,475	1958	1957
8,850,000	90,918		
8,900,000	94,362		1958
8,950,000	97,805	1959	
9,000,000	101,249		
9,050,000	104,692		1959
9,100,000	108,136	1960	
9,150,000	111,579		
9,200,000	115,023		1960

[1] The data in this column do not take into consideration any quota increase the area may receive as a result of reallocation of deficits which might occur in other domestic areas.

[2] In each of these columns the year 1956 was placed opposite an estimate of what the final consumption estimate will be for 1956. Each of the years 1957 through 1960 was placed opposite a consumption estimate determined by adding to the 1956 consumption estimate 135,000 tons for each year thereafter and rounding to the nearest 50,000 tons.

Gasoline Tax Refund

Farmers will soon be able to obtain a refund of the Federal excise tax on gasoline which is used on a farm for farming purposes under a new law. Present Federal tax rate is 2 cents a gallon.

Chester A. Usry announced a few days ago that under the new law first refund payments will be made after June 30 on gasoline purchased and used during the first six months of 1956. Thereafter, refunds will be made for a one-year period from July 1 to June 30.

To get his refund, a farmer will have to file his claim after June 30 and before October 1. Claims are to be made on Form 2240 and are to be filed with the United States Director of Internal Revenue for the farmer's district. Forms will be available after June 1 at Internal Revenue offices, county agricultural agents, and at some banks and post offices. Be sure to get yours.

—o—

IN WASHINGTON

(Continued from page 253)

Josiah Ferris, Vice President, American Sugar Cane League of the U. S. A. Washington, D. C.

The purpose of the conference is to negotiate a new and more workable International Sugar Agreement to replace the present and not too effective Agreement which will not expire until January 1, 1959.

While it required nearly six years to negotiate the present Agreement, it is hoped that the new one can be redrafted during the next five or six weeks and submitted to the participating countries for formal adoption.

Florida Wage-Price Hearing

The Wage and Fair Price hearing held in Florida May 10 was uneventful. Florida producers recommend no change in the wage scale or the rates to be paid for sugar cane for the 1956 crop. Organized labor was represented at the hearing but by only one witness who mildly urged a wage increase because of the earnings of one of the Florida companies.

—o—

IN THE FIELD

(Continued from page 252)

Further study by yield tests prove which seedlings are good and which are not. New varieties are increased

(Continued on next page)

as soon as the yield tests show they have real promise as commercial canes. When enough seed is available the variety is released to sugar cane farmers.

The program gives a good story of some of the work involved in the 10-year job of getting a variety from the flower stage to the farmer. The program will be televised in the near future and it is hoped that many sugar cane farmers will see it.

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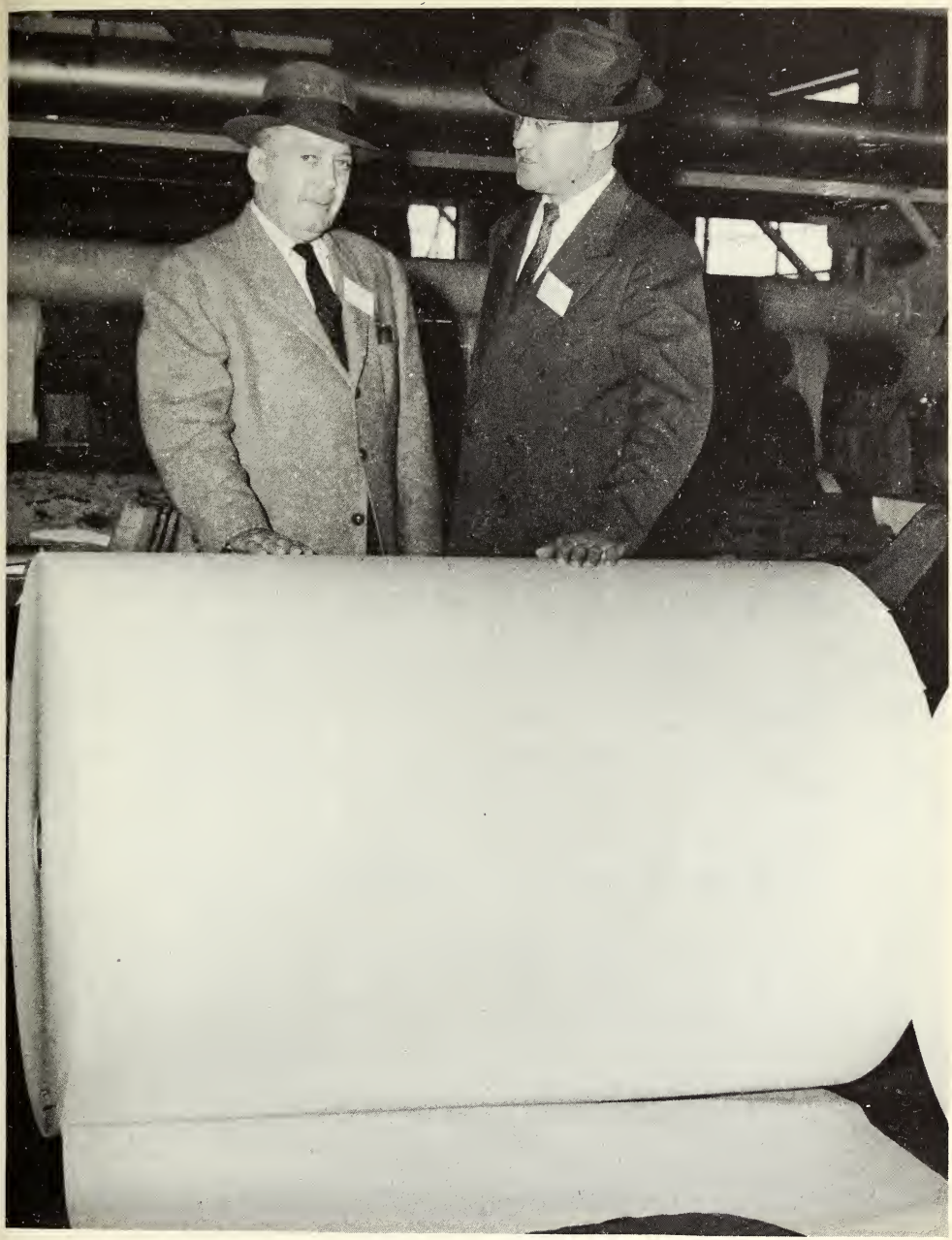
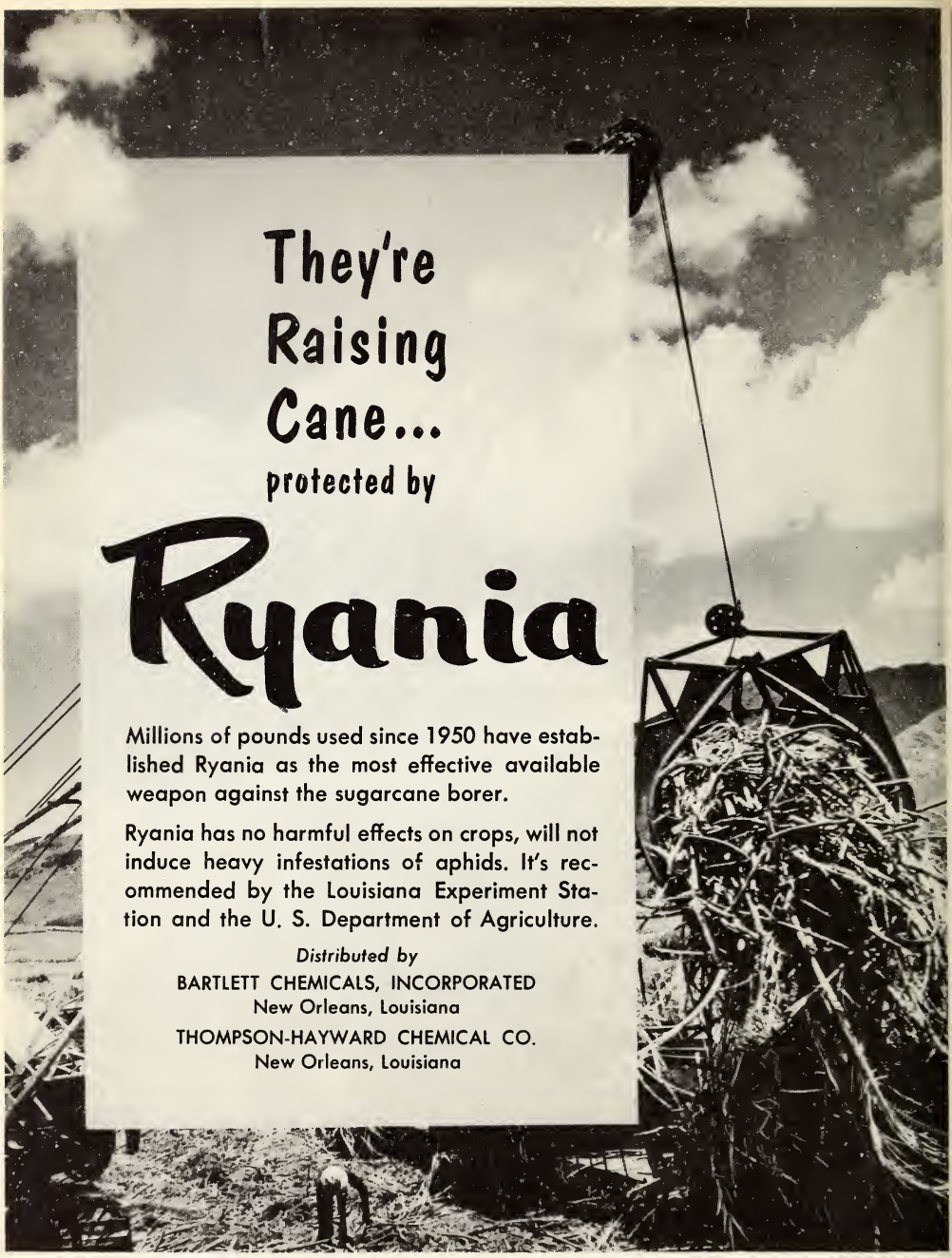


John B. Levert, left, of Levert-St. John, Inc. in New Orleans, and G. J. Durbin, right, general manager of the American Sugar Cane League in New Orleans, examine a roll of finished paper which has just come off the Valentine Pulp and Paper mill. Mr. Levert is also president of the Louisiana Sugar Exchange.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THE SUGAR BULLETIN

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In This Issue

Up Front With The League 267
Kill Right-To-Work Law—Contact Committee Meets June 28th—"Some Characteristics"

In The Field With Lloyd L. Lauden 268
Houma Contact Committee Meeting June 28th

In Washington With Joe Ferris 269
Ernest W. Greene To Retire—Proportionate Share Hearing July 19th—Wage and Fair Price Hearing August 1st—Tariff Reductions—International Sugar Meeting

The New Amendments To The Sugar Act 270

"Some Characteristics" (Tables) 274

Resume Milling And Processing Characteristics Of Three New Sugarcane Varieties 276

Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
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Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Kill Right-To-Work Law

The American Sugar Cane League and other farm organizations have worked very hard to keep the Right-to-Work Law. On June 5th the Louisiana House voted 57 to 44 to kill the Law and on June 14th the Louisiana Senate voted 21 to 18 to kill the Law.

For the record we list below the way the Senate and House Members from the Sugar Parishes voted.

Voting *with* us and against killing the Law were Senators:

Clifton Gaspard, representing St. Mary and Vermillion Parishes.

Jack C. Fruge, representing Avoyelles and Evangeline Parishes.

Voting *against* us and for killing the Law were Senators:

Alvin T. Stumpf, representing Jefferson, St. Charles and St. John Parishes.

Farrell A. Blanchard, representing Ascension and St. James Parishes.

A. O. Rappelet, representing Assumption, Lafourche and Terrebonne Parishes.

Dr. Gabriel Antoine Ackel, representing Iberia, Lafayette and St. Martin Parishes.

Rexford C. McCullough, representing Iberia, Lafayette and St. Martin Parishes.

John S. Nelson, representing Iberville, Pointe Coupee and W. Baton Rouge Parishes.

C. H. Downs, representing Rapides Parish.

Voting *with* us and against the Law were House members:

Risley C. Triche, representing Assumption Parish.

Alton R. de Nux, representing Avoyelles Parish.

Francis Dugas, representing Lafourche Parish.

Eugene G. Gouaux, representing Lafourche Parish.

J. Thos. Jewell, representing Pointe Coupee Parish.

Robert J. Munson, representing Rapides Parish.

Clarence C. Aycock, representing St. Mary Parish.

E. E. Grizzaffi, representing St. Mary Parish.

Feray Clark, representing Vermilion Parish.

Voting *against* us and for killing the Law were House members:

James Dawson Martin, representing Ascension Parish.

Buford Smith, representing Avoyelles Parish.

J. Allen Daigre, representing Iberia Parish.

Samuel C. Cashio, representing Iberville Parish.

Allen Babineaux, representing Lafayette Parish.

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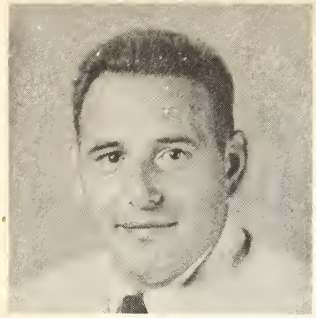
D. Elmore Becnel, representing

(Continued on page 278)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Houma Contact Committee Meeting — June 28, 1956

Again this year Dr. E. V. Abbott, Superintendent of the U. S. D. A. Houma Sugar Station, and Stephen C. Munson, Chairman of the Contact Committee of the American Sugar Cane League, invite all sugar cane farmers and processors to attend the Annual Houma Contact Committee Meeting.

The meeting will be held at the Houma Station on Thursday, June 28, beginning at 9 o'clock in the morning.

Reports on new developments in the field of sugarcane Research will be presented by the Scientists of the Station. Below are listed the speakers and the papers to be presented.

R. J. Matherne—Outfield variety tests and presentation of consolidated variety summary sheet prepared jointly by U.S. D.A. and L.S.U. (to be presented jointly with Dr. T. J. Stafford, L.S.U.)

Leo P. Hebert—Varieties in preliminary agronomy tests.

C. A. Schexnayder—Stunting disease control.

Ralph Mathes—Sugarcane insect investigations.

L. J. Charpentier—Larval parasites of the sugarcane borer.

L. G. Davidson—Fertilizer experiments.

R. M. Ramp—Report on experimental sugarcane harvester and planter.

E. V. Abbott—Seedling work.

In addition to the above listed speakers and reports, Dr. H. M. Tysdal, Head Sugar Crops Section U.S.D.A., will be present to discuss the Breeding work done at the Canal Point, Florida Station. Canes that have C. P. prefixing the number were bred for Louisiana at the Canal Point, Florida Station.

Last year's Annual Houma Contact Committee Meeting was very much of a success. The attendance was the best recorded. There were owners, managers, and overseers present from all size farms. What was most impressive was the large number of farmers present who operate 100 acres of cane or less. The U.S.D.A. and the American Sugar Cane League wish to encourage those who have attended in the past to attend this June 28 meeting. It is hoped that those who have attended in the past will also encourage neighboring farmers to make a special effort to attend this all important meeting.

Science is taking a greater place each year on the sugarcane farm. Farmers attending this meeting will get first hand information on the future things for the farm.

It is very important to point out to all sugarcane farmers that these scientists work the entire year for the benefit of the Louisiana sugar industry and ask only that farmers give one day of their time to hearing what has been done and what is planned for the future.

Come out on June 28 to show your appreciation and learn something at the same time. Sandwiches

(Continued on page 277)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Ernest W. Greene to Retire

Ernest W. Greene, Vice President of the Hawaiian Sugar Planters' Association and Washington representative for many years will retire on June 30th. He will continue to serve as a consultant to the industry in the Capital.

Slater M. Miller, Assistant Vice President and assistant to Mr. Greene will take over as Washington representative of the Association.

H.S.P.A.'s President, George W. Sumner, expressed deep appreciation for the thirty-six years of service Mr. Greene has given to the Sugar Industry, almost twenty of which have been as the Washington representative of the Association.

Mr. Greene went to Hawaii in 1914 and entered the employment of Catton Neill & Co., where he remained for six years. He joined the sugar industry in 1920 as assistant manager of Oahu Sugar Company at Waipahu. In 1923 he became manager.

In 1937 Mr. Greene was appointed managing director of the Oahu plantation after resigning as manager to serve temporarily as representative of the HSPA in Washington. He assumed full-time employment with HSPA in January, 1939 as vice-president and head of the Washington office.

Mr. Greene is one of the deans of the domestic sugar industry. He is currently president of Sugar Association, Inc., which is composed of all elements of the sugar industry supplying markets of the United States and Canada. The non-profit association supports a broad program of research and public education.

Mr. Greene was one of the driving forces behind the organization of an industry body, and is serving his sixth term as head of the senior sugar association. Initially, the body was the Sugar Research Foundation. Mr. Greene served as president in 1946, 1948, 1949, chairman of the board in 1948, and he has been president since 1952.

When the sugar body expanded its activities to include national advertising and public relations it was reorganized. Sugar Association became the parent group and Sugar Research Foundation handles the research work, with Sugar Information assuming responsibility for public education.

Mr. Miller was secretary of HSPA in Honolulu from August 1, 1957 until he joined Mr. Green in the Washington office in November 1951.

Mr. Miller has been with the Hawaiian sugar industry since 1928. He spent some time with HSPA in the Philippines and served on the staff of the experiment station. He was head overseer at Kaiwiki Sugar Company and later general field superintendent at Ewa Plantation Company before rejoining the association in 1944 to take over the newly formed industrial relations department.

(Continued on page 278)

THE NEW AMENDMENTS TO THE SUGAR ACT

(Public Law 545)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 101 (d) of the Sugar Act of 1948, as amended, is amended to read as follows:

"(d) The term 'raw sugar' means any sugars (exclusive of liquid sugar from foreign countries having liquid sugar quotas), whether or not principally of crystalline structure, which are to be further refined or improved in quality to produce any sugars principally of crystalline structure or liquid sugar."

Sec. 2. Section 101(e) of such Act is amended to read as follows:

"(e) The term 'direct-consumption sugar' means any sugars principally of crystalline structure and any liquid sugar (exclusive of liquid sugar from foreign countries having liquid sugar quotas), which are not to be further refined or improved in quality."

Sec. 3. Section 101 (i) of such Act is amended by deleting the parenthetical word "Clerget)".

Sec. 4. Section 101 of such Act is amended by adding at the end thereof a new paragraph to read as follows:

"(n) The term 'to be further refined or improved in quality' means to be subjected substantially to the processes of (1) affination or defecation, (2) clarification, and (3) further purification by adsorption or crystallization. The Secretary is authorized, after such hearing and upon such notice as he may by regulations prescribe, to determine whether specific processes to which sugars are subjected are sufficient to meet the requirements of this paragraph (n) and whether sugars of specific qualities are raw sugar within the meaning of paragraph (d) of this section, or direct-consumption sugar within the meaning of paragraph (e) of this section."

Sec. 5. Section 201 of such Act is amended by striking in the second sentence thereof the words "1947 prior to the termination of price control of sugar" and inserting in lieu thereof "1947-1949".

Sec. 6. Section 202(a) of such Act is amended to read as follows:

"(a) (1) For domestic sugar-producing areas by apportioning among such areas four million four hundred and forty-four thousand short tons, raw value, as follows:

Area	Short tons, raw value
Domestic beet sugar	1,800,000
Mainland cane sugar	500,000
Hawaii	1,052,000
Puerto Rico	1,080,000
Virgin Islands	12,000

"(2) To the above total of four million four hundred forty-four thousand short tons, raw value, there shall be added an amount equal to 55 per centum of the amount by which the Secretary's determination of requirements of consumers in the continental United States for the calendar year exceeds eight million three hundred and fifty thousand short tons, raw value. Such additional amount shall be apportioned among and added to the quotas established under paragraph (1) of this subsection for such domestic sugar-producing areas, respectively, as follows: (A) The first one hundred sixty-five thousand short tons, raw value, or any part thereof, by which quotas for the domestic areas are so increased shall be apportioned 51.5 per centum to the domestic beet sugar area and 48.5 per centum to the mainland cane sugar area; (B) the next twenty thousand short tons, raw value, or any part thereof, by which such quotas are so increased shall be aportioned to Puerto Rico; (C) the next three thousand short tons, raw value, or any part thereof, by which such quotas are so increased shall be apportioned to the Virgin Islands; (D) any additional amount shall be apportioned on the basis of

the quotas established in paragraph (1) of this subsection as adjusted by subparagraphs (A), (B), and (C) of this paragraph (2)."

Sec. 7. Section 202(c) of such Act is amended by striking out "For" after "(c)" and inserting in lieu thereof "(1) For the calendar year 1956, for" and by adding at the end thereof the following new paragraphs:

"(2) For the calendar year 1957 and for each subsequent calendar year, for foreign countries other than the Republic of the Philippines, (A) by prorating to Cuba 96 per centum and to other foreign countries 4 per centum of the amount of sugar, raw value, by which eight million three hundred and fifty thousand short tons, raw value, or such lesser amount as determined pursuant to section 201 exceeds the sum of four million four hundred and forty-four thousand short tons, raw value, and the quota established pursuant to subsection (b) of this section; and (B) by prorating 45 per centum of the amount of sugar, raw value, by which the amount determined pursuant to section 201 exceeds the sum of eight million three hundred and fifty thousand short tons, raw value, as follows:

Country	Per centum
Cuba	29.59
Peru	4.33
Dominican Republic	4.95
Mexico	5.10
Other countries	1.03
	45.00

The above proration of 1.03 per centum to foreign countries other than Cuba, the Republic of the Philippines, Peru, the Dominican Republic, and Mexico shall be apportioned to such other countries whose average entries within the quotas during 1953 and 1954 exceeded one thousand short tons, raw value, on the basis of the average entries within the quotas from each such country for the years 1951, 1952, 1953, and 1954.

"(3) For the calendar year 1957 and for each subsequent calendar year, the proration of 4 per centum under paragraph (2) (A) of this subsection for foreign countries other than Cuba and the Republic of the Philippines shall be apportioned, first, by assigning to each such foreign country whose average entries within the quotas during the years 1953 and 1954 were less than one thousand short tons, raw value, a proration equal to its average entries within the quotas during 1953 and 1954; second, by assigning to each such foreign country whose average entries within the quotas during 1953 and 1954 were not less than one thousand nor more than two thousand short tons, raw value, a proration of three thousand short tons, raw value; third, by assigning to each foreign country whose average entries within the quotas during 1953 and 1954 were more than two thousand and less than three thousand short tons, raw value, a proration equal to the average entries from each such country within the quotas during 1953 and 1954, plus two thousand short tons, raw value; fourth, by assigning to each foreign country whose average entries within the quotas during 1953 and 1954 were not less than three thousand nor more than ten thousand short tons, raw value, a proration equal to the average entries from each such country within the quotas during 1953 and 1954; and, fifth, by prorating the balance of such proration to such foreign countries whose average entries within the quotas during 1953 and 1954 exceeded ten thousand short tons, raw value, on the basis of the average entries within quotas from each such country for the years 1951, 1952, 1953, and 1954.

Sec. 8. Section 202 of such Act is amended by adding the following new subsection:

"(e) Whenever in any year any foreign country with a quota or proration thereof of more than ten thousand short tons fails to fill such quota or proration by more

(Continued on next page)

than 10 per centum and at any time during such year the world price of sugar exceeds the domestic price, the quota or proration thereof for such country for subsequent years shall be reduced by an amount equal to the amount by which such country failed to fill its quota or proration thereof, unless the Secretary finds that such failure was due to crop disaster or force majeure or finds that such reduction would be contrary to the objectives of this Act. Any reduction hereunder shall be prorated in the same manner as deficits are prorated under section 204."

Sec. 9. (a) The second sentence of section 204 (a) of such Act is amended by inserting before the period at the end thereof a colon and the following: *Provided*, That any deficit in any domestic sugar-producing area occurring by reason of inability to market that part of the quota for such area allotted under the provisions of section 202 (a) (2) shall first be prorated to other domestic areas on the basis of the quotas then in effect".

(b) The last paragraph of section 204 (a) of such Act is amended by inserting before the period at the end thereof a semicolon and the following: "except that in the case of proration of any such deficit in any domestic sugar-producing area occurring by reason of inability to market that part of the quota for such area allotted under and by reason of section 202 (a) (2), the Secretary shall apportion the unfilled amount on such basis and to such other domestic areas as he determines is required to fill such deficit, and if he finds that no domestic area will be able to supply such unfilled amount, he shall add it to the quota for Cuba".

Sec. 10. Section 205 (a) of such Act is amended by inserting immediately before the final sentence thereof the following: "In making such allotments, the Secretary may also take into consideration and make due allowance for the adverse effect of drought, storm, flood, freeze, disease, insects, or other similar abnormal and uncontrollable conditions seriously and broadly affecting any general area served by the factory or factories of such person.".

Sec. 11. (a) Section 207 (a) of such Act is amended by adding after the word "year" the following: ", plus an amount equal to the same percentage of twenty-nine thousand six hundred and sixteen short tons, raw value, that the increase in the quota for Hawaii under section 202 is of one million fifty-two thousand short tons, raw value,".

(b) Section 207 (b) of such Act is amended by striking the period at the end thereof and by adding the following: "which shall be principally of crystalline structure, plus an amount equal to the same percentage of one hundred twenty-six thousand and thirty-three short tons, raw value, that the increase in the quota for Puerto Rico under section 202 is of one million eighty thousand short tons, raw value, which latter amount may be filled by direct-consumption sugar whether or not principally of crystalline structure.".

Sec. 12. Section 207 (h) of such Act is amended by striking out "The" after "(h)" and inserting in lieu thereof "(1) For the calendar year 1956, the" and by adding the following new paragraph:

"(2) For the calendar year 1957 and each subsequent calendar year, the quota for foreign countries other than Cuba and the Republic of the Philippines may be filled by direct-consumption sugar to the extent of 1.36 per centum of the amount of sugar determined pursuant to section 201 less the sum of the quotas established in subsections (a) and (b) of section 202: *Provided*, That such limitation shall not apply to countries receiving prorations under section 202 (c) of seven thousand short tons or less. The direct-consumption portion of such quota which is subject to the 1.36 per

centum limitation referred to above shall be prorated to countries which receive prorations under section 202 (c) of more than seven thousand short tons on the basis of average imports of direct-consumption sugar within the quota for the years 1951, 1952, 1953, and 1954."

Sec. 13. Section 301 (b) of such Act is amended by inserting after the words "(or processed)" the following: ", except for livestock feed, or for the production of livestock feed, as determined by the Secretary,".

Sec. 14. Section 302 (b) of such Act is amended by inserting after "(or processed)" the words "within the proportionate share" and by striking the period at the end thereof and inserting the following: "and of the producers in any local producing area whose past production has been adversely, seriously, and generally affected by drought, storm, flood, freeze, disease, insects, or other similar abnormal and uncontrollable conditions. For the purposes of establishing proportionate shares hereunder and in order to encourage wise use of land resources, foster greater diversification of agricultural production, and promote the conservation of soil and water resources in Puerto Rico, the Secretary, on application of any owner of a farm in Puerto Rico, is hereby authorized, whenever he determines it to be in the public interest and to facilitate the sale or rental of land for other productive purposes, to transfer the sugarcane production record fo any parcel or parcels of land in Puerto Rico owned by the applicant to any other parcel or parcels of land owned by such applicant in Puerto Rico.".

Sec. 15. Section (405) of such Act is amended by inserting "(a)" at the beginning thereof, by striking out "(a)" and "(b)" and inserting in lieu thereof "(1)" and "(2)", respectively, and by adding the following new subsection:

"(b) Any person whose sugar processing operations otherwise meet the requirements of section 101 (n) and who subjects to such processes sugar imported or brought into the continental United States under a declaration that it is raw sugar but which sugar subsequently is determined to be of direct-consumption quality, shall forfeit to the United States a sum equal to 1 cent per pound for each pound, raw value, of such sugar in excess of that part of the direct-consumption portion of the applicable quota or proration or allotment thereof remaining unfilled at the time of such determination, which forfeiture shall be recoverable in a civil suit brought in the name of the United States."

Sec. 16. Section 407 of such Act is amended by adding at the end thereof the following sentence: "The provisions of this section shall not apply to persons whose services are obtained pursuant to section 305.".

Sec 17. Section 411 of such Act is renumbered as section 412, section 412 of such Act is renumbered as section 413, and a new section 411 inserted as follows:

"Sec. 411. The Secretary is authorized to issue such regulations as may be necessary to carry out article 7 of the International Sugar Agreement for the Regulation of the Production and Marketing of Sugar (ratified by and with the advice and consent of the United States Senate on April 29, 1954), restricting importations of sugar into the United States from foreign countries not participating in such agreement, or to carry out the corresponding provisions of any such future agreements ratified by and with the advice and consent of the United States Senate."

Sec. 18. Renumbered section 412 of such Act (relating to termination of the powers of the Secretary under the Act) is amended by striknig out "1956" in each place it appears therein and inserting in lieu thereof "1960".

Sec. 19. Sections 4501 (c) and

(Continued on next page)

6412 (d) (relating to the termination of taxes on sugar) of the Internal Revenue Code of 1954 are amended by striking out "1957" in each place it appears therein and inserting in lieu thereof "1961".

Sec. 20. Section 4502 (4), chapter 37, subchapter A, "Sugar", of the Internal Revenue Code of 1954 is amended as follows: Strike out the parenthetical word "(Clerget)" where it occurs in the first sentence and delete the second sentence thereof.

Sec. 21. (a) Section 4504, chapter 37, subchapter A, "Sugar, of the Internal Revenue Code of 1954 is amended by adding before the period at the end thereof the following: ", and except that such tax may be subject to refunds as a tax under the provisions of section 6418 (a)".

(b) Section 6418 (a) of chapter 65 of the Internal Revenue Code of 1954 is amended by striking out the "(a)" immediately following "section 4501".

Sec. 22. Except as otherwise provided, the amendments made hereby shall become effective as of January 1, 1956, except that sections 1 through 4 shall become effective upon publication in the Federal Register of regulations implementing such sections, or six months after the date of enactment of this Act, whichever is earlier.

Approved May 29, 1956.

SOME CHARACTERISTICS

(Tables omitted from Issue of June 1)

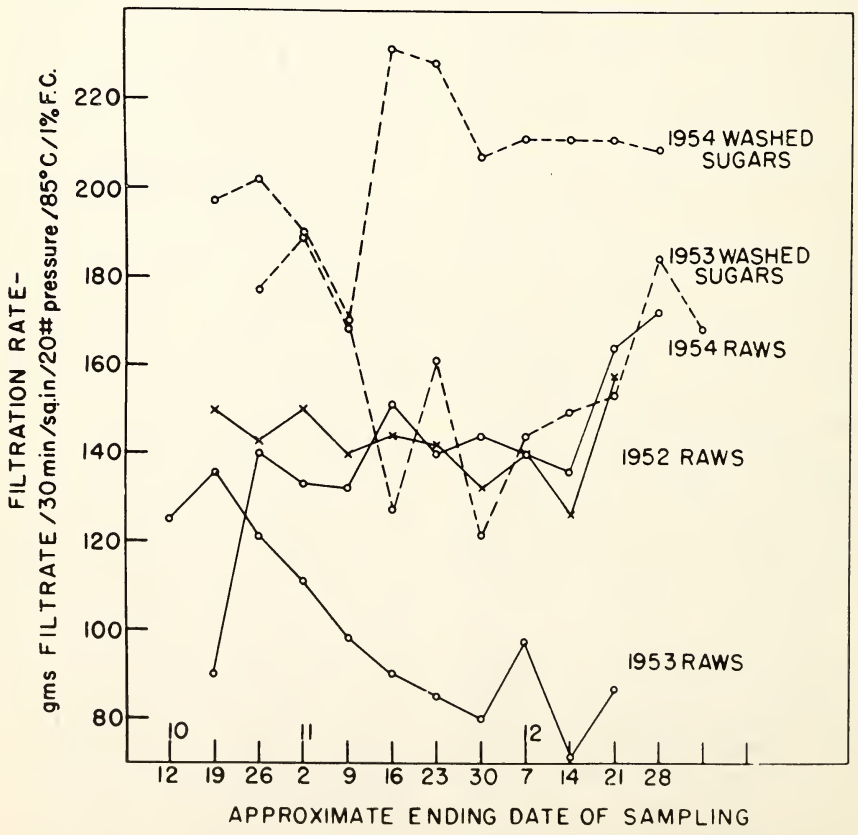


FIG. 1-FILTRATION RATE OF SUGARS

TABLE 1.
Phosphorus and Starch Content of Factory Sirups*

Factory	Season	P_2O_5			Starch
		Inorganic	Organic	Total	
		%	%	%	%
1	1952	.048	.026	.073	.043
	1953	.039	.022	.061	.051
2	1952	.040	.026	.067	.035
	1953	.038	.025	.062	.049
3	1952	.030	.025	.055	.038
	1953	.044	.021	.064	.040
4	1952	.044	.025	.069	.037
	1953	.058	.024	.081	.046
5	1952	.118	.029	.147	.032
	1953	.086	.025	.110	.047
6	1952	.034	.025	.059	.034
	1953	.046	.024	.070	.039

* Based on Refractometer Solids.

TABLE 2.
Analysis of Raw and Washed Sugars*

Item	Raw Sugars				Washed Sugars	
	1951	1952	1953	1954	1953	1954
Starch - %	.009	.011	.017	.015	.013	.011
Wax complex -%	.011	.010	.013	-	.007	-
Sediment - %	.039	.013	.044	.032	.057	.042
Color - - log t	.473	.379	.482	.410	.159	.128
Turb. -- -log t	.186	.179	.273	.190	.153	.093
Ash - %	-	.414	.533	.503	.173	.133
Filter Rate:						
gms.	-	142	100	141	164	203
%	-	51	36	50	64	73

* Averages of samples from 6 factories in 1951-3; from 7 factories in 1954.

RESUME OF MILLING AND PROCESSING CHARACTERISTICS OF THREE NEW SUGARCANE VARIETIES

By W. F. Guilbeau[1] *and C. W. Stewart*[2]

Pilot plant experiments were carried out during the past four years by the U. S. Department of Agriculture's Southern Utilization Research Branch on the milling and processing of new sugarcanes.

These new varieties, which will soon be available for grinding in commercial factories, are N. Co. 310, released in 1954, and C.P. 48-103 and C.P. 47-193, released in 1955.

The milling studies were conducted by Louisiana State University Chemical Engineering Department, under contract, and the processing by the staff of the Sugarcane Products Section of the Southern Utilization Research Branch.

Variety C.P. 44-101, which is used as standard for comparison of the three new varieties, is now 50% of the total production of sugarcane in Louisiana.

Tables I and II give the yearly and the four-year averages of the results obtained on milling and processing in two 2-ton lots each of both plant and stubble cane of the three new varieties and of the commercial variety used as standard. Columns 1 to 14 are self-explanatory, and show the most important factors which should be considered in evaluating the milling and processing characteristics of the sugarcanes.

The comparative ratings for each factor relative to the standard commercial variety C.P. 44-101 as 100, are given at the bottom of Tables I and II. The individual results of each test on milling, by C. W. Stewart and associates, and the processing by W. F. Guilbeau and associates, were reported previously, and only the years averages are given here.

The results obtained in milling and processing of these varieties during this before-release period will serve as a guide to the factory management of what to expect when processing them.

The sugar content of the cane and the juice purity columns 1 and 8 are the two main factors to be considered. High sucrose and good purity will result in better price per ton of cane to the farmer, higher recovery of sugar in the factory, less tonnage to be harvested and transported, and less material to be milled and processed for the equivalent amount of sugar. Other factors to be considered in processing are the clarity of the juice and mud per ton of cane discharged from the clarifier. The variation in the quantities of the mud for the new varieties is as much as 32%. This larger quantity of mud produced by certain varieties could delay or reduce the grinding rate due to overloading the clarifier and the mud filtering system. This would prolong the grinding season and automatically increase the unit cost of producing sugar. Also, with the possibility of a freeze, this delay would result in very heavy losses to the cane growers. Another factor is mill power KWH per ton of 96° sugar produced, which varies as much as 20%. High power consumption in milling increases the production cost. The other factors can be evaluated in the same manner.

All these factors cannot be combined to give an overall value to the different canes. Each factor should be considered independently of the others, and be applied according to factory conditions and requirements.

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[1] Sugarcane Products Section, Southern Utilization Research Branch, Agricultural Research Service, U. S. Department of Agriculture.

[2] Superintendent, Audubon Sugar Factory, Louisiana State University.

TABLE I

Year and Field	Cane Variety	No. of Tests	8 Dilute Juice Purity	9 Defecated Juice Purity	10 Defecated Juice Clarity (Luximeter)	11 Mud Produced lb./T.cane	12 Dry Solids % of Mud Wt.	13 T.A.96°Sugar lb./T.cane	14 Mill Power KWH/T.96°Sugar
1952 SF[1]	C.P. 44-101	5	76.2	78.6	39	140	6.19	180.62	63.00
1953 SF	"	4	80.0	81.5	44	170	4.91	181.88	62.24
1954 SG[2]	"	4	69.8	73.9	54	116	6.60	143.30	74.81
1955 SG	"	4	66.2	68.3	40	132	5.53	114.70	100.26
	Weighted Avg.	17	73.2	75.8	44.3	140	5.91	152.13	74.37
1952 Sd[3]	C.P. 48-103	4	81.5	82.6	36	151	9.08	207.47	60.54
1953 Sd	"	4	84.7	87.2	42	128	6.15	220.40	56.53
1954 SG	"	4	79.7	81.1	60	107	8.92	218.45	49.80
1955 SG	"	4	72.3	74.7	38	120	7.10	143.25	89.06
	Weighted Avg.	16	79.6	81.4	44.0	126	7.81	197.40	63.98
1952 Sd	C.P. 47-193	4	76.4	78.4	42	154	6.64	169.85	78.77
1953 Sd	"	4	82.8	84.5	52	231	4.71	195.56	69.65
1954 SG	"	4	76.7	78.0	56	134	6.86	182.85	63.66
1955 SG	"	4	68.5	71.6	45	150	8.04	130.20	96.16
	Weighted Avg.	16	76.1	78.1	48.8	167	6.56	169.62	77.06
1952 Sd	N.Co. 310	4	75.4	77.2	33	122	8.06	174.60	61.17
1953 Sd,SG	"	4	83.9	86.4	39	152	10.68	214.60	60.76
1954 SG	"	4	78.7	80.4	43	121	9.28	189.30	60.12
1955 SG	"	4	67.4	71.4	31	127	9.62	115.60	103.29
	Weighted Avg.	16	76.4	78.8	36.5	130	9.41	173.53	71.33
			Comparative Ratings, % of Standard C.P. 44-101 (100%)						
	C.P. 48-103		109	107	99	111*	132	127	117*
	C.P. 47-193		104	103	110	84*	110	109	97*
	N.Co. 310		104	104	83	108*	159	111	105*

[1] San Francisco Plantation.
[2] St. Gabriel Plantation.
[3] Reciprocal percentage shown, high number desirable.

TABLE II

Year and Field	Cane Variety	No. of Tests	1 Pol (Sucrose) % Cane	2 Fiber % Cane	3 Grinding Rate T.cane/hr.	4 Mill Power KWH/T.cane	5 Grinding Rate T.fiber/hr.	6 Mill Power KWH/T.fiber	7 % Sucrose Extraction
1952 SF[1]	C.P. 44-101	5	11.96	13.45	18.40	5.69	2.47	42.30	90.63
1953 SF	"	4	12.16	14.06	15.51	5.56	2.18	40.26	89.18
1954 SG[2]	"	4	9.15	11.30	14.50	5.36	1.64	47.43	90.14
1955 SG	"	4	8.63	13.64	13.71	5.75	1.87	42.16	84.82
	Weighted Avg.	17	10.48	13.11	15.53	5.62	2.04	43.03	88.69
1952 Sd[3]	C.P. 48-103	4	13.78	12.54	15.40	6.28	1.93	47.01	87.87
1953 Sd	"	4	14.46	13.62	14.70	6.23	2.00	45.76	86.99
1954 SG	"	4	12.88	12.20	13.55	5.44	1.65	44.91	90.52
1955 SG	"	4	10.49	12.95	12.93	6.38	1.67	49.26	86.63
	Weighted Avg.	16	12.90	12.83	14.15	6.08	1.81	46.73	88.62
1952 Sd	C.P. 47-193	4	11.59	15.08	16.68	6.69	2.51	44.42	89.00
1953 Sd	"	4	12.75	14.83	16.60	6.81	2.47	46.08	89.18
1954 SG	"	4	11.03	13.50	12.61	5.82	1.70	43.29	89.10
1955 SG	"	4	9.60	14.64	16.22	6.26	2.37	42.76	86.93
	Weighted Avg.	16	11.24	14.51	15.53	6.40	2.26	44.14	88.55
1952 Sd	N.Co. 310	4	11.70	13.63	18.02	5.34	2.46	43.07	89.69
1953 Sd,SG	"	4	13.84	13.79	15.86	6.52	2.19	46.24	89.12
1954 SG	"	4	11.30	12.07	13.80	5.69	1.66	47.34	90.26
1955 SG	"	4	9.06	13.14	13.11	5.97	1.72	45.43	86.69
	Weighted Avg.	16	11.48	13.16	15.20	5.88	2.01	45.52	88.94
			Comparative Ratings, % of Standard C.P. 44-101 (100%)						
	C.P. 48-103		123	109*	91	92*	90	92*	99.3
	C.P. 47-193		107	90*	100	88*	111	97*	99.8
	N.Co. 310		110	100*	98	96*	99	95*	100.3

[1] San Francisco Plantation.
[2] St. Gabriel Plantation.
[3] Reciprocal percentage shown, high number desirable.

IN THE FIELD

(Continued from page 268)

and refreshments will be served at the Station for lunch. This saves time and allows the meeting to be completed in time for farmers to return home at a fairly early hour.

UP FRONT

(Continued from page 267)

St. John the Baptist Parish.

Robert Angelle, representing St. Martin Parish.

Carroll L. Dupont, representing Terrebonne Parish.

Elmer Leon (Yum) Bernard, representing West Baton Rouge Parish.

Contact Committee Meets June 28th

The Annual Houma Meeting of the Contact Committee of the American Sugar Cane League will be held at the U.S.D.A. Houma Sugar Station beginning at nine o'clock in the morning on Thursday, June 28th.

Our "In The Field" man, Lloyd L. Lauden, has covered the scheduled activities of the meeting in his column which appears on page 268 of this issue.

The Contact Committee is one of the most important committees of the League. It is, at present, composed of the following gentlemen:

Stephen C. Munson, Chairman, Jeanerette, La.; Elliott Jones, Houma; E. A. Maier, Houma; Horace Nelson, Thibodaux; A. A. Thibaut, New Roads; Ben Devall, Chamberlin; H. K. Bubenzer, Bunkie; Hampton Steward, Lakeland; L. C. Levert, Jr., Thibodaux; W. R. Ellender, Bourg; James Thibaut, Donaldsonville; Clegg Caffery, Franklin Richard McCarthy, Jr., New Orleans; L. S. Shaw, New Iberia; Randolph Roane, Jr., Jeanerette; Rodney Banta, Jeanerette; Louis Arceneaux, Chamberlin; Dennis Lanaux, Lucy; Ray Mullins, New Iberia; Luke B. Babin, White Castle; Clarence Waguespack, Vacherie; M. Lee Shaffer, Montegut; Leon Godchaux II, New Orleans; Felix Savoie, Paincourtville; Leon J. Landry, New Iberia; R. F. Odom, Angola; Moise Hymel, Gramercy; John W. Barker, Lockport; J. B. Luke, Jr., Bunkie; A. J. Simoneaux, Donaldsonville; Warren Harang, Jr., Thibodaux; A. H. Feske, Jr., New Iberia; Brandon Beyt, St. Martinville; F. M. Burley, Youngsville; J. Wilson Lepine, Thibodaux; Earl G. Luke, Franklin; C. A. Duplantis, Franklin; G. C. Smith, Patterson; Clay Terry, Franklin; Eugene Graugnard, St. James; M. L. Marquette, Franklin; P. J. DeGravelles, Jr., Franklin; Remy Robert, Central; Lynn V. Arceneaux, Supreme; Edward Burguieres, Louisa; Bronier Thibaut, Napoleonville; M. V. Yarbrough, Youngsville, Ovide B. LaCour, Batchelor; and Scientists at L.S.U., Houma, and Canal Point Stations and the Southern Regional Laboratory.

"Some Characteristics"

In the June 1st issue of The Sugar Bulletin we carried a very interesting article by R. T. Balch and J. J. Friloux of the U.S.D.A. the title of which is "Some Characteristics of Louisiana Raw Sugar". Because of last minute space difficulties we found it necessary to omit tables 1 and 2 and figure 1 from the article. These will be found on pages 274 and 275 of this issue.

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IN WASHINGTON

(Continued from page 269)

Proportionate Share Hearing July 19th

The United States Department of Agriculture has tentatively selected July 19th as the date for the Proportionate Share Hearing for the Mainland Cane area. The hearings will be held in New Orleans; announcement of the hour and place of the hearing will be made later.

Wage and Fair Price Hearing August 1st

The Sugar Division will hold a hearing in Thibodaux, Louisiana, August 1st, on wages for the coming crop and the price to be paid for sugar cane.

Tariff Reductions

The government has announced a list of conditions on which it has granted tariff concessions in the recently conducted GATT negotiations at Geneva. Raw and refined sugar will not be affected. The only changes of interest to the domestic sugar industry are those af-

fecting edible and fancy molasses and blackstrap molasses not used for the extraction of sugar or for human consumption. Inasmuch as the present duty on these items is small and the reduction smaller, the result appears to be of no great importance to the sugar trade.

International Sugar Meeting

The International Sugar Conference called by the United Nations has been meeting in New York City since May 21st. At this writing an impass has been reached between exporting countries and importing countries, the importing countries want lower prices and the exporting countries want larger quotas and higher prices. A recess of several months probably will be taken in order that delegates may report to their respective countries and return to New York in the fall with more detailed instructions.

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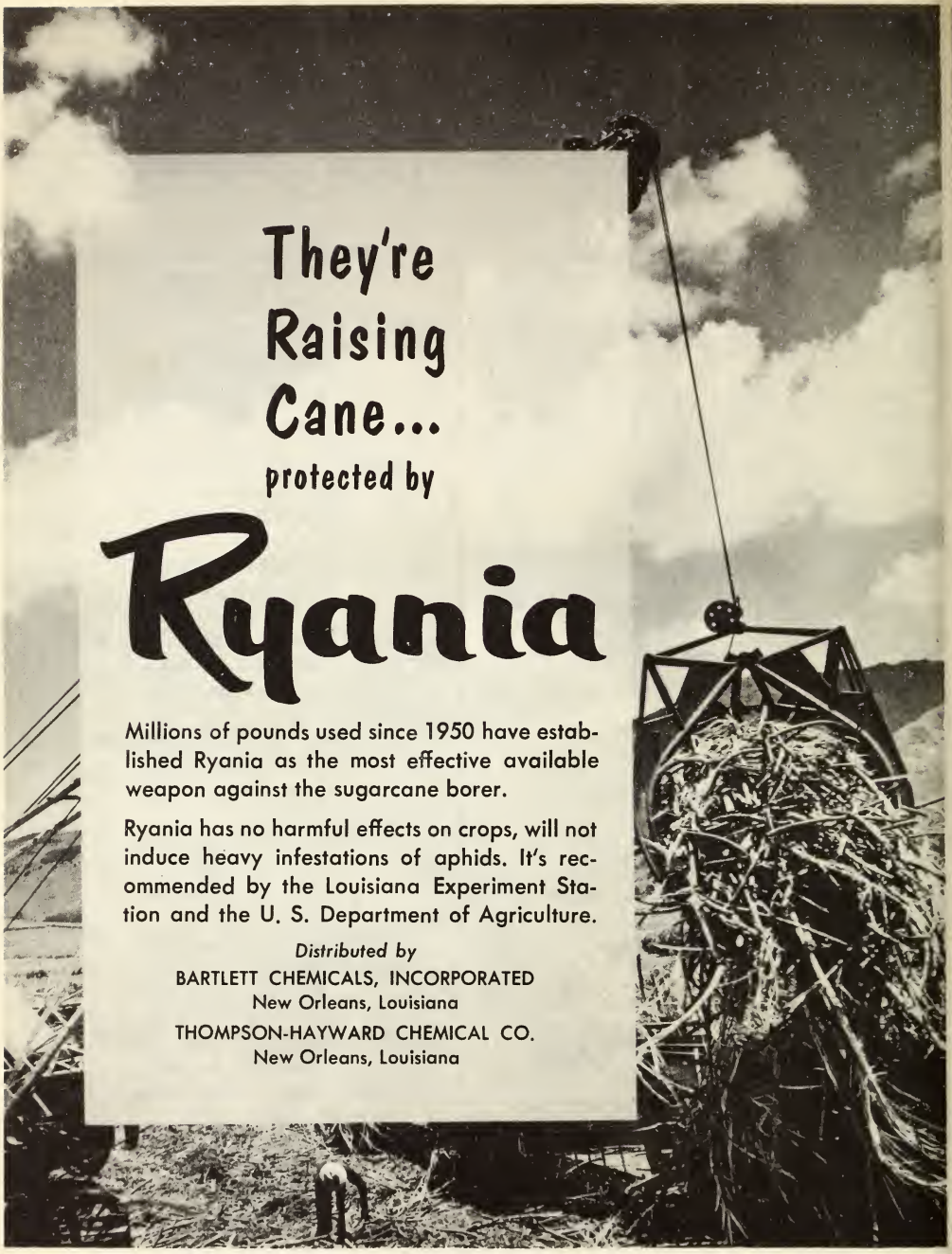
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In This Issue

Up Front With The League 283
The Old Mule Shuddered—A Star Is Born—St. Mary Elects—Dr. Rosenfeld's Book

In The Field With Lloyd L. Lauden 284
More Heating Units For Control Of Stunting Disease

In Washington With Joe Ferris 285
Big Sugar News In Washington—Allocation Of Quota Increase—Government Formula For Marketing

Area Sugar Quotas Revised And Total Quota Increased By 125,000 Tons 286

Proposed 1956 Processor Allotment For Mainland Cane Sugar Area Announced 287

Effectiveness Of Selection For Brix Among Individual Stools Of First Stubble Seedlings 288

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in the interests of the Domestic Sugar Cane Industry

THE SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

The Old Mule Shuddered

Mr. Larry Myers and his Sugar Division increased the overall sugar quota by 125,000 tons on June 22nd (see official release an page 286) and the Old Mule shuddered, but that's about all.

For the past six months we have been watching our market character with rapt attention and we must admit that he is a changed animal. Nothing seems to faze him anymore. It could be said that he is taking all these quota gyrations in his stride but actually he isn't striding at all. In fact he seems to be stuck—glued to the spot, as it were — and our guess is that the driver will be content if he stays that way.

A Star Is Born

On Monday, June 25th at 6:50 in the morning a new star was born and we hope you didn't miss the show. Our own "In The Field" man, Lloyd L. Lauden, came to us "live" from the studios of W.D.S.U. (channel 6 on your dial) on that memorable morning and from here on out anything can happen.

Lloyd will next be seen in a fifteen minute educational T.V. - film that has to do with birth control among the sugarcane varieties. He is co-starred with Dr. S. J. P. Chilton and, of course, the varieties. Watch your local newspaper for time and station.

P.S. If any of you folks are thinking about signing him up, forget it. He's ours.

St. Mary Elects

The St. Mary Sugar Cooperative held its Annual Meeting on June 12th and re-elected A. V. Allain, President. Also re-elected were C. Beverley Causey, Vice-President and Didier Landry, Secretary-Treasurer.

Board members, elected for another year were Herbert Barras, Farris Guillotte, Orville O. Longman, Earl G. Luke, W. McKerall O'Oniell, and Ralph E. Rodriguez.

Felix Broussard was reappointed to his position as office manager and assistant Secretary - Treasurer and Theo. Bauer was again selected attorney.

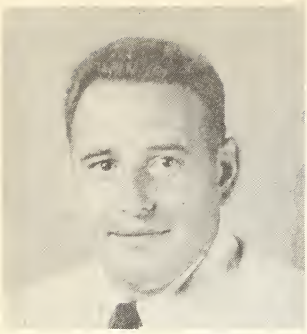
This was the ninth annual meeting of this big sugarcane cooperative enterprise which is lucky to enjoy the services of the men who will guide its destinies during the coming year.

Dr. Rosenfeld's Book

It is with pleasure that we call attention to a book by the late Dr. Arthur H. Rosenfeld that is now being offered for sale by the Book Department of the publication SUGAR, 604 Fifth Avenue, New York 20, N. Y.

A communication from Dr. Rosenfeld's son, Arthur H. Rosenfeld, Jr., advises us that the book "Sugar Cane Around The World" actually was completed in 1941 but that the manuscript was not published until much later because it was held in Egypt during World War II and then the task of publication fell to Mrs. Rosenfeld who became ill be-

(Continued on page 293)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

More Heating Units For Control Of Stunting Disease

The Committee on the Control of Stunting Disease met recently to discuss recommendations and practises farmers should use to control Stunting Disease. The next issue of *The Sugar Bulletin* will carry recommendations and suggestions of the committee. A copy of the recommendations and suggestions will also be sent to all owners of Heating Units.

The American Sugar Cane League, Louisiana State Experiment Station and Extension Service, and the United States Department of Agriculture are encouraging sugar cane farmers to get started on a Stunting Disease control program. The County Agents in the cane producing parishes have certainly encouraged many farmers to begin a cane treating program. Within the last two weeks one County Agent, Mr. W. E. Williams, Iberia Parish, has encouraged six cane producers to get heat treating units for the control of Stunting Disease.

Last year there were about forty treating units in operation in the Louisiana cane belt. A recent survey made by Dr. R. J. Steib, L.S.U., indicated that most of the seed treated last fall is free of the disease.

It is hoped that another 40 or more units will be purchased this year.

Many farmers have the opinion that the control program consists of heat treating all cane to be used for seed each year. This is not so. This would be dangerous from the standpoint of stand failure and also much too expensive.

The program actually consists of heat treating a small portion of each variety in use each year. The increase resulting from the small amount treated is what is used later on for large scale field planting. It is now believed that if precautions are used to prevent recontamination, the treated seed and the increase should result in increased yields per acre for several years. The exact time yield increases can be expected will depend upon two things, the quality of the treatment and the manner in which the cane is handled after the treatment. If operational instructions of the heating units are followed closely the quality of the treatment will be good. If the treatment is good and handling instructions are closely followed then the seed will be clean for a long time of the virus that causes Stunting Disease. The farmers who operated heat treating units last year are going all out to keep the seed clean. The recommendations for keeping seed clean are for the most part very practical. A little planning on the part of the farmer will make the job of handling clean seed easy.

Blue prints of the heat treating units can be gotten from the American Sugar Cane League office free of charge. Mr. Lewis Doherty, 3121 Convention St., Baton Rouge, La., has constructed most of the cane heat treating units in Louisiana.

(Continued on page 294)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Big Sugar News in Washington

The latest sugar news item in Washington is the 125,000 ton quota increase annuonced on June 22nd. The overall effect of this action by the U. S. Department of Agriculture was to increase by 123,750 tons the total of the quotas for the domestic beet and mainland cane sugar producing areas. The action increased only slightly (1,250 tons) the supplies of offshore sugar available to refiners, whereas a similar increase in quotas under the previous law would have increased offshore supplies by the full amount of the increase.

The total quantity of sugar available for the continental United States is 8,575,000 tons, raw value. According to U. S. Department of Agriculture officials supplies and requirements currently appear to be in fairly good balance in the eastern part of the nation which depends upon foreign and domestic offshore sugar for its supplies although increasing the estimate of consumers' requirements by an additional 125,000 tons to a total of 8,575,000 tons. The Agriculture Department's Determination adds only 1,250 tons to the quotas of foreign countries and does not affect the quotas of Hawaii, Puerto Rico and the Virgin Islands. Also the availability of sugar to east coast refineries is not materially affected. The order makes available to the domestic beet sugar area 63,731 tons and for the mainland cane sugar area 60,019 tons. The domestic beet sugar quota under the revised quotas and prorations now totals 1,863,731 short tons raw value. The mainland cane quota totals 560,019 tons.

Many observers feel that the department's estimate of consumption was 25,000 tons too high; so far, however, the market has not been noticeably affected by the quota increase. Future sales were only four lots and prices were one point lower on Tuesday, June 26th. Sellers continue to ask 6.05¢ although it is believed they would shade the price to the last selling base before the quota increase of 6.02¢.

The impression in the market is that the quota rise may influence the market psychologically for a short time, but that the adverse affect will be offset by increased consumption which to date is running about 165,000 tons ahead of a year ago.

The main factors influencing the market are:

(1) that almost no additional offshore raw sugar has been made available to seaboard refiners,

(2) this increase of 125,000 tons now removes the threat of further quota changes in the foreseeable future,

(3) increased domestic consumption is taken care of by increased domestic quotas,

(4) on the basis of present consumption estimates, further quota increase seems inevitable.

The consensus in Washington is that the timing of the announce-

(Continued on page 293)

AREA SUGAR QUOTAS REVISED AND TOTAL QUOTA INCREASED BY 125,000 TONS

(Official Release)

On June 22nd the U. S. Department of Agriculture (1) revised the distribution of sugar quotas in accordance with the new Sugar Act, and (2) added 125,000 tons to the total sugar quotas.

The over-all effect of this dual action is to increase by 123,750 tons the total of the quotas for the domestic beet and mainland cane sugar-producing areas, and to increase by 1,250 tons the total of the quotas for foreign countries.

Department officials pointed out that the action increases only slightly the supplies of offshore sugar available to refiners; whereas a similar increase in quotas under the previous law would have increased offshore supplies by the full amount of the increase.

The increase in total quotas raises the quantity of sugar available for the continental United States market to 8,575,000 tons, raw value.

Specific quotas and prorations of quotas, as shown in the table at the end of this release, were established on the bases set forth in the following "Statement of Bases and Considerations":

The Sugar Act of 1948, as amended by Public Law 545, 84th Congress, signed by the President on May 29, 1956, became effective for the purposes of this determination on January 1, 1956. Totals of the sugar quotas for foreign and domestic areas are revised by the amendment when requirements of consumers in the continental United States exceed a total of 8,350,000 tons, raw value, as determined by the Secretary.

Consumers' requirements had been established at 8,450,000 tons on May 1, 1956, 100,000 tons of which is subject to redistribution under the amendment to the act.

Supplies and requirements currently appear to be in fairly good balance in the eastern part of the nation which depends upon foreign and domestic offshore sugar for its supplies. This determination, although increasing the estimate of consumers' requirements by an additional 125,000 tons to a total of 8,575,000 tons, adds only 1,250 tons to the quotas of foreign countries and does not affect the quotas of offshore domestic areas. Accordingly, the determination does not materially affect the availability of sugar to east coast refineries. The order makes available to the domestic beet sugar area and the mainland cane sugar area quota increases as provided in the amendment to the act. The quota for the domestic beet sugar area is increased by 63,731 tons and the quota for the mainland sugar area by 60,019 tons.

Effective distribution this year through June 9 appears to be approximately 114,000 tons in excess of that for the corresponding period of last year. Final quotas in 1955 totalled 8,400,000 tons and total distribution during that year approximated the same amount. After consideration of changes in invisible inventories and constructive deliveries, it appears that consumption in 1955 approximated 8,500,000 tons. Sugar distribution through June 9 of this year amounted to 3,573,000 tons, or 183,000 tons in excess of that for the corresponding period of last year, but when allowance is made for constructive deliveries, which supplemented supplies in 1955, deliveries so far this year effectively exceed those in the corresponding period of 1955 by 114,000 tons.

To give effect to the increase in total sugar requirements made effective by this order and to changes in the distribution of quotas in excess of 8,350,000 as required by

(Continued on page 294)

PROPOSED 1956 PROCESSOR ALLOTMENTS FOR MAINLAND CANE SUGAR AREA ANNOUNCED

(Official Release)

Marketing allotments for processors of the 1956 quota for the Mainland Cane Sugar Area were recommended on June 21st by the U. S. Department of Agriculture.

The recommended allotments are based on the record of a hearing held in New Orleans, La., January 19, 1956, and, if adopted, will replace preliminary allotments to processors announced December 26, 1955 (USDA 3322-55).

The marketing allotments to processors, as recommended, would be established by measuring and weighting the three factors specified for consideration in Sec. 205(a) of the Sugar Act of 1948 as follows: (1) processings from proportionate shares, as measured by each processor's production from 1955-crop cane, would be weighted 40 percent; (2) past marketings, as measured by each processor's annual average marketings within allotments, 1951-55, would be weighted 20 percent; and (3) ability to market, as measured for each processor by (a) his total production of sugar from the 1952 through 1955 crops less (b) his total marketings of sugar during the 1953 through 1955 calendar years (including quantities contracted to CCC), would be weighted 40 percent.

Interested persons may file written exceptions to the proposed order containing the recommendations with the Hearing Clerk, U. S. Department of Agriculture, Washington 25, D. C., through July 3, 1956. Allotments under the proposed order are as follows:

Processor	Allotments (short tons, raw value)
Albania Sugar Coop., Inc.	5,604
Alice C. Ref. & Plntg., Inc.	6,584
Alma Plantation, Ltd.	6,334
J. Aron & Co., Inc.	11,183
Billeaud Sugar Factory	6,674
Breaux Bridge Sugar Coop., Inc.	6,119
J. M. Burguieres Co., Ltd., The	5,264
Burton-Sutton Oil Co., Inc.	5,629
Caire & Graugnard	2,774
Caldwell Sugar Coop., Inc.	10,213
Catherine Sugar Co., Inc.	5,849
Columbia Sugar Company	4,479
Cora-Texas Mfg. Co., Inc.	2,034
Dugas & LeBlanc, Ltd.	9,418
Duhe & Bourgeois Sugar Co., Inc.	7,209
Erath Sugar Co., Ltd.	4,079
Evan Hall Sugar Coop., Inc.	17,956
Evangeline Pepper & Food Products, Inc.	4,179
Fellsmere Sugar Producers Assoc.	7,124
Frisco Cane Co., Inc.	760
Glenwood Coop., Inc.	11,868
Godchaux Sugars, Inc.	29,274
Helvetia Sugar Coop., Inc.	5,804
Iberia Sugar Coop., Inc.	11,048
Lafourche Sugar Company	12,612
Harry L. Laws & Co., Inc.	8,223
Levert-St. John, Inc.	7,314
Loisel Sugar Co., Inc.	4,544
Louisiana State Penitentiary	3,129
Lula Factory, Inc.	9,683
Meeker Sugar Coop., Inc.	2,899
Milliken & Farwell, Inc.	10,418
Okeelanta Sugar Refinery, Inc.	10,088
M. A. Patout & Son, Ltd.	6,719
Pouplar Grove Pltg. & Ref. Co.	5,319
St. James Sugar Coop., Inc.	10,423
St. Mary Sugar Coop., Inc.	10,828
Slack Bros, Inc.	2,699
Smedes Bros., Inc.	3,864
South Coast Corp.	36,623
Southdown Sugars, Inc.	33,678
Sterling Sugars, Inc.	9,968
J. Supple's Sons Pltg. Co.	3,714
United States Sugar Corp.	91,112
Valentine Sugars, Inc.	10,313
Vermilion Sugar Co., Inc.	1,930
Vida Sugars, Inc.	3,774
A. Wilbert's Sons Lbr. & Sh. Co.	7,433
Young's Industries, Inc.	5,134
Louisiana State University	100
All other persons	000
Total	500,000

EFFECTIVENESS OF SELECTION FOR BRIX AMONG INDIVIDUAL STOOLS OF FIRST STUBBLE SEEDLINGS

R. D. Breaux, P. H. Dunckelman and S. J. P. Chilton

Introduction

Since 1948, 30,000 to 40,000 space planted seedlings of sugar cane have been grown annually at the La. State Univ. Agricultural Experiment Station. These seedlings were established from true seed of numerous crosses made at Canal Point, Florida, Grand Isle and Baton Rouge, Louisiana.

Selection for Brix, percent total solids, among the first stubble seedlings has been practiced since initiation of the breeding program. It was felt that a review of the data collected since 1948 might give some indication of the effectiveness of selection for this character on the individual stool basis.

Methods and Materials

Data obtained from the following series of crosses were used in this study: the 1952 Louisiana series, the 1951 Louisiana series and the 1949 Canal Point series. Approximately 84,306 space planted seedlings from these series were grown. Data on Brix readings were available from a total of 719 single stools and eight foot plots of clones from these seedlings.

Brix of the individual first stubble stools was determined as follows: three readings with the hand refractometer were made in each stool; juice was extracted from three different stalks in the stool, one extraction from the first or second internode above ground, one at or near the center of the stalk and one at the last visible internode of the stalk. The average of these three readings was calculated and compared to average readings of control varieties grown with the seedlings tested and brixed at the same time.

Control varieties for the 1952 La. series and the 1951 La. series were Co. 290, C.P. 34-120 and C.P. 36-105. Co. 281, Co. 290 and C. P. 34-120 were used as controls for the 1949 C. P. series. Brix of the individual stools was converted to percentage of the mean of the three control varieties.

Individual stool selections were replanted to eight foot plots along with the same control varieties used in the initial stools. Five stalk samples were cut from each plot and a laboratory analysis for sucrose made. Sucrose values obtained were converted to percentage of the mean sucrose of the three commercial varieties.

Correlation coefficients were then calculated between Brix (expressed as % controls) of the individual stools and sucrose (expressed as % of controls) of the eight foot plant cane plots.

Experimental Results

The 1952 Louisiana Series

A significant positive association of +0.49 between Brix (% control) of the individual stool and sucrose (% control) of the eight foot plant cane plots was found in the 1952 La. series of crosses. This series had consisted of 29,463 space planted seedlings. Laboratory analysis of eight foot plant cane plots were available for 249 selections from the series. The correlation coefficient was calculated from the 249 selections.

Brix (% controls) of the individual stools was plotted against sucrose (% controls) of their respective eight foot plant cane plots to more clearly show the association between the two variables. This scatter diagram is given in Figure I. The top 30 initial stools are enclosed by a broken line and the top 30 eight foot plant cane plots are enclosed by a solid line.

The positive association between the two variables becomes apparent in the diagram. Note in Figure I that 11 of the highest eight foot

plant cane plots came from initial stools also among the top 30. These 11 clones, enclosed in the diagram by both the solid and broken lines, were above 112 percent of controls for Brix and above 108 percent of controls for sucrose.

However, 19 of the top eight foot plant cane plots came from individual stool selections not among the top 30. Had selection standards of individual stools for Brix been set at 112 percent of controls approximately 63 percent of the highest sucrose canes would have gone unselected.

The 1951 Louisiana Series

A significant positive association of +0.43 between Brix (% control) of the individual stools and sucrose (% control) of the eight foot plant cane plots was found in the 1951 La. series of crosses. This series had consisted of 19,498 space planted seedlings. Laboratory analyses were available for 226 selections from this series.

A scatter diagram like that plotted for the La. 1952 series is given in Figure 2 for the La. 1951 series. The top 23 individual stools are enclosed by a broken line and the top 23 eight foot plots are enclosed in a solid line.

The positive association between Brix and sucrose is again apparent in Figure 2 although the association is not quite so close as that of the La. 1952 series. Note that only six of the highest 23 clones for sucrose came from initial stools among the top 23. These clones are enclosed in the diagram by both the solid and broken lines.

It should be noted that 17 of the top eight foot plant cane plots came from initial stools not among the top 23. In this series had selection standards been set at 109 percent of controls 70 percent of the highest sugar clones would have gone unselected.

The 1949 C. P. Series

A significant positive association of +0.64 between Brix (% control) of the individual stool and sucrose (% control) was found for the C. P. series. *In this series the sucrose values correlated with Brix of the individual stools represents an average of three analyses run on plant cane selections of the series.* Two analyses (early and late) were run on the eight foot plant cane plots and one was obtained from the 18

(Continued on next page)

TABLE 1.

Number of replants and La. and C. P. assignments from initial stools above and below 100 percent of controls.

Initial Stool Selections, Replants, L. and C. P. Assignments	1952 La. Series	1951 La. Series	1949 C.P. Series	Total
A. Initial Stools Selected				
1. Total no. individual stools	29,463	19,498	35,345	84,306
2. Total no. stools selected	249	226	542	1,017
3. No. stools selected below 100% controls	92	146	245	483
4. No. stools selected above 100% controls	157	80	297	534
B. Selections Replanted to 18 Foot Plots				
1. Total number of replants	112	51	244	407
2. No. of replants from stools below 100% controls	32	23	96	151
3. No. of replants from stools above 100% controls	80	28	148	256
C. La. and C.P. Assignments				
1. Total number assigned	--	11	56	67
2. No. from initial stools below 100% controls	--	3	9	12
3. No. from initial stools above 100% controls	--	8	47	56
4. La. and C.P. assignments themselves below 100% controls from initial stools below 100% controls	--	2	6	8

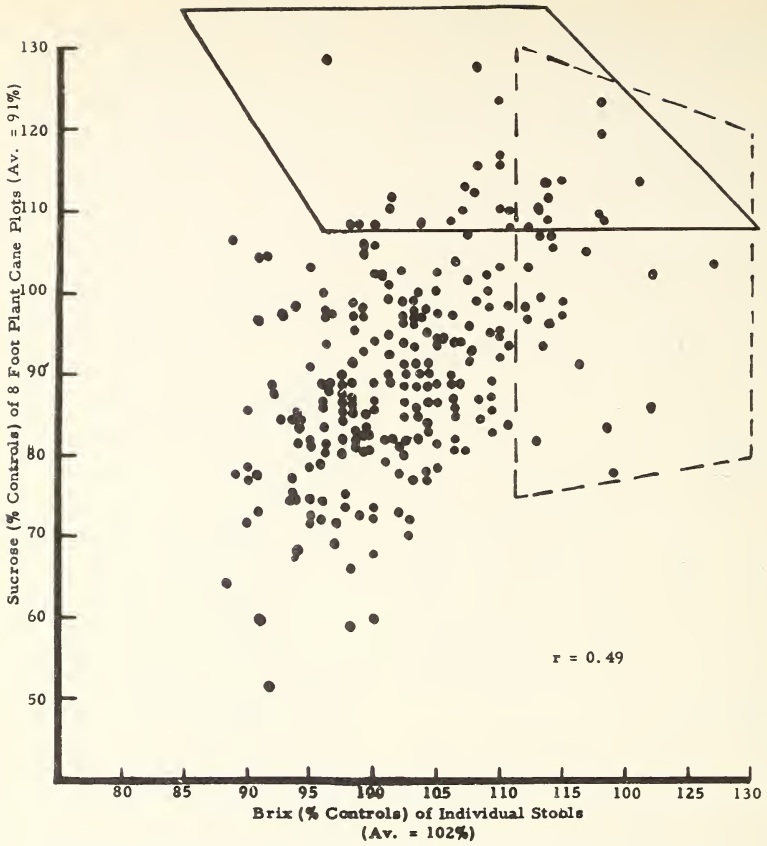


Figure 1. Scatter diagram showing the effectiveness of selection among 249 individual stools (1st stubble) of the La. 1952 series for Brix.

foot plant cane plots. This average should be a more reliable estimate of sucrose content of the clones involved.

This series consisted of 35,345 space planted seedlings. Laboratory analyses were available for only 244 selections from the series.

A scatter diagram for this series is given in Figure III. The highest 32 individual stools are enclosed by a broken line and the highest 31 clones of the series are enclosed by a solid line.

The high positive association exhibited between Brix of the initial stool and mean sucrose of the clones becomes evident in the diagram.

In the diagram 14 clones are enclosed by both the dotted and solid lines. These were among the highest 31 clones for sucrose (based on three analyses) and originated from individual stool selections above 106 percent of controls and among the top 32.

Note that 17 clones among the highest 31 came from individual stools not among the top in Brix. Had selection standards in the initial stool been 116 percent of controls or above these clones would have gone unselected. If selection standards were set at 110 percent of controls 11 of the highest sugar clones would have gone unselected, six of which showed sufficient promise to be assigned variety (C.P.) numbers and tested agronomically.

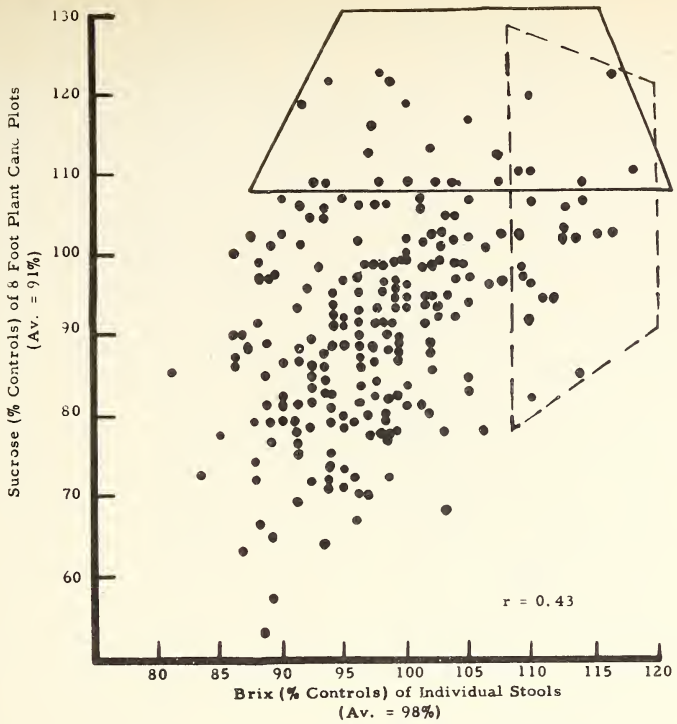


Figure 2. Scatter diagram showing the effectiveness of selection among 226 individual stools (1st stubble) of the La. 1951 series for Brix.

Comparative Behavior of Initial Stool Selections Above and Below 100 Percent of Controls for Brix

In Table 1, the number of initial stool selections above and below 100 percent of controls in the three series studied is given. The data previously presented show that although in each series studied there was a positive association between Brix on the initial stool and sucrose of the eight foot plant cane plots, too critical a selection might result in loss of the majority of the highest sugar canes. The size of the positive correlations obtained, on the other hand, would seem to indicate effectiveness of selection in the initial stool at least to some degree, and that too lenient selection procedures are also possible.

As shown in Table 1, 92 initial stools were selected in the La. 1952 series below 100 percent of controls. Only ten of these stools gave rise to eight foot plots above 100 percent of controls in sucrose. Six of the clones showed sufficient promise to be replanted to 18 foot plots. From the 157 initial stool selections above 100 percent of controls 23 clones above 100 percent of controls were replanted to 18 foot plots.

Of the 226 initial stool selections of the La. 1951 series 146 selections were below 100 percent of controls with only 80 selections above 100 percent. More replants, to 18 foot plots, 28 in number, came from the 80 selections above 100 percent of control, than came from the 146 selections (23 replants) below 100 percent of controls.

There were 11 clones of the series that were assigned La. numbers and released to agronomists for further testing. Eight of these varieties came from initial stool selections

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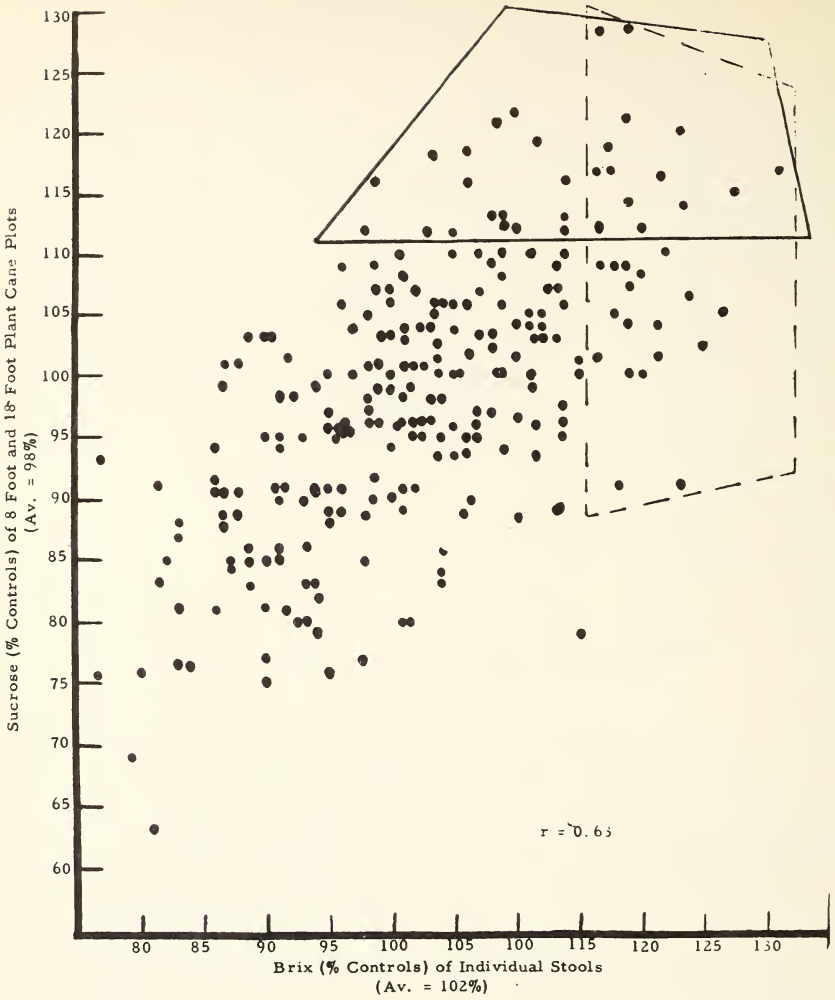

Figure 3. Scatter diagram showing the effectiveness of selection among 244 individual stools (1st stubble) of the La. 1949 series for Brix.

above 100 percent of controls for Brix. Of the three La. 1955 varieties originating from initial stools below 100 percent of controls two varieties were themselves below 100 percent of controls in sucrose.

Table 1, also shows that of the 542 selections made from individual stools of the C. P. 1949 series, 245, approximately one-half came from initial stools below 100 percent of controls. Of these 245 selections, 96 showed sufficient promise to be replanted while 148 replants came from the 297 initial stools above 100 per cent of controls.

Fifty-six clones of the series were assigned C. P. numbers and released to agronomists for further testing. Of this number, 47 came from initial stools above 100 percent of controls. Of the nine varieties assigned C. P. numbers that originated from initial stools below 100 percent of controls, six were themselves below 100 percent of controls for sucrose.

If selection standards had been set at 100 percent of controls in the initial stools of the La. 1951 and the C. P. 1949 series 12 of the 67 varieties released to agronomists would have gone unselected. How-

ever, only four varieties 100 percent of controls or better in sugar would have gone unselected.

Summary and Conclusions

Correlation coefficients of +0.49 and +0.43 were found between Brix (% control) of single stools and sucrose (% control) of eight foot plant cane plots of sugarcane in two series of crosses.

A positive correlation of 0.63 was found between initial stool Brix (% control) and sucrose (% control) obtained by averaging three sucrose analyses of 244 clones of the C. P. 1949 series.

The correlation coefficients obtained indicate that selection in the individual stool for Brix is effective to some degree in obtaining cane varieties with high sucrose content.

The association between Brix of the individual stool and sucrose of the eight foot plant cane plots is not sufficiently high to warrant rigid selection for Brix in the initial stool. Over half of the highest sucrose canes would have gone unselected had selection standards in the initial stool been placed at 110 percent of controls.

Had selection standards in the initial stool been placed at 100 percent of controls in the "L" 1951 and C. P. 1949 series only four varieties with sucrose content above 100 percent of controls would have gone unselected.

The results suggest that selection standards for Brix on the initial stool could be raised to 100 percent of controls without missing many high sucrose canes.

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UP FRONT

(Continued from page 283)

fore it was completed.

A great many readers of The Sugar Bulletin were personally acquainted with Dr. Rosenfeld. He was the Consulting Technologist of the American Sugar Cane League for six years, serving during the 1926 - 1932 period of Mosaic Disease devastation and the subsequent rehabilitation of the Louisiana Sugar Industry by the distribution of P.O.J. canes.

"Sugar Cane Around The World" sells for $6.50 a copy. It consists of eight chapters and 513 pages. In reviewing the book Dr. Pieter Honig states, "It is a book with a historical value. It compares practices and opinions in many countries. It is not a handbook in which we are able to find how we have to plow, to plant and to fertilize our own plantations, but it gives us the opportunity to approach in a critical way our present methods and to ask ourselves if what we are doing is really the best or whether it can be improved, or what is the most important way to achieve improvement and progress: what kind of experiments and studies have to be made to obtain a better understanding of what is actually going on during the growth of the cane plant under the existing condition in our fields."

———o———

IN WASHINGTON

(Continued from page 285)

ment, at the beginning of maximum summer demand, is generally considered excellent.

Allocation of Quota Increase

The Department of Agriculture will hold a hearing in Washington, July 16th for the purpose of allocating the mainland cane areas' share of the quota increase of 60,019 tons to the various mills in the area. The hearing will begin at 9:30 a.m. eastern daylight saving time in room 2W, of the Administration Building. Inasmuch as the allocation will be made on the basis of the formula heretofore announced by the department, the hearing is considered perfunctory, and unless processors make objection the allocation will be routine.

Government Formula for Marketing

Of equal or even greater importance than the quota increase was the government's announcement of its proposed formula for allocating quotas to mainland cane raw mills.

The marketing allotments to processors, as recommended by the U. S. Department of Agriculture would be established by measuring and weighting the three factors specified for consideration in Section 205(a) of the Sugar Act as amended:

(1) processing from proportionate shares, as measured by each processor's production from 1955-crop cane, would be weighted 40 percent,

(2) past marketings, as measured by each processor's annual average marketings within allotments, 1951-55, would be weighted 20 percent.

(3) ability to market, as measured for each processor by (a) his total production of sugar from 1952 through 1955 crops less (b) his total marketings of sugar during the 1953 through 1955 calendar years (including quantities contracted to CCC) would be weighted 40 percent.

Anyone desiring to do so may file written exceptions to the proposed order with the Hearing Clerk, U. S. Department of Agriculture, Washington 25, D. C. through July 3, 1956.

—o—

IN THE FIELD

(Continued from page 284)

Farmers who plan to purchase heating units this year should place orders early enough to receive delivery in time to start treatment as soon after August 1 as the length and maturity of the cane will allow.

—o—

QUOTAS

(Continued from page 286)

Public Law 545, amendments have been made to sections 811.80, 811.81, 811.82, 811.84 and 811.85 of Sugar Regulation 811, pursuant to the respective sections of the act referred to in each of the sections of the regulation. These amendments to the regulation make the following major charges: (1) the quotas for domestic areas are increased by 123,750 tons to a total of 4,567,750 tons, with the increase divided 51.5 percent to the Domestic Beet Sugar Area and 48.5 percent to the Mainland Cane Sugar Area; (2) the quotas for foreign countries other than the Republic of the Philippines are increased by 1,250 tons to 3,027,250 tons which is prorated to such foreign countries; (3) the total direct-consumption sugar which may be imported from foreign countries other than Cuba and the Republic of the Philippines is increased by 17 tons; and (4) the prorations of quotas for foreign countries have been adjusted to carry out the objectives of section 411 of the amended act.

Section 411 authorizes the Secretary to carry out Article 7 of the International Sugar Agreement. That article provides that countries participating in the agreement restrict importation of sugar from countries not participating in the agreement to the level of such importations in any one of the years 1951, 1952 or 1953. Prorations of quotas established by this order reflect the adjustment, based on total importations in 1953 from countries not participating in the International Sugar Agreement, necessary to carry out the requirements of section 411.

The revised quotas and prorations which will be effective June 27, 1956, when Amendment 2 to S. R. 811 is published in the Federal Register, are as follows:

	Revised Quotas and Prorations (short tons, raw value)
Domestic beet sugar	1,863,731
Mainland cane sugar	560,019
Hawaii	1,052,000
Puerto Rico	1,080,000
Virgin Islands	12,000
Republic of the Philippines	980,000
Cuba	2,906,160
Dominican Republic	33,877
El Salvador	4,141
Haiti	3,278
Mexico	14,046
Nicaragua	7,823
Peru	51,871
Unspecified countries	6,054
Total	8,575,000

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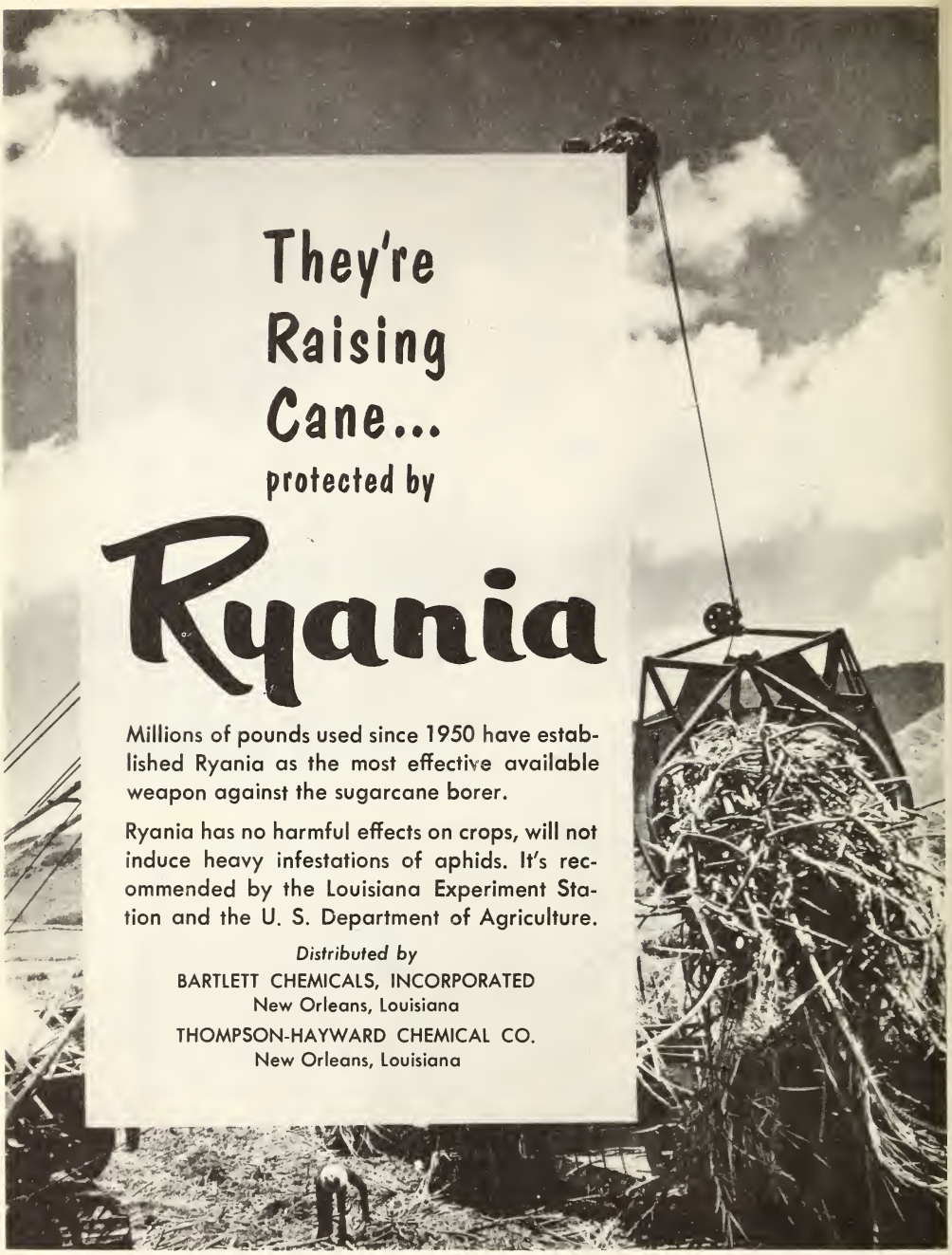

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In This Issue

Up Front With The League 229
The Old Mule—Parity—Labor Committee Meets—Grower-Processors Committee Agree—Acreage Allotments—S. C. Munson To Washington — Godchaux Changes Name — National Announces Purchase — Alfred Lippman, Jr., Available — "The Scientific Nibble"—The Right To Work

In The Field With Lloyd L. Lauden 300
Summer Planting Time Near

In Washington With Joe Ferris 301

Occurrence Of The Ratoon Stunting Disease In Louisiana And Its Control By Use Of Hot-Air Treatments 302

Summary Of Important Sugarcane Varietal Information As Based On Tests In Louisiana During Recent Years 304-5

Recommendations And Suggestions On The Operation Of Electrical Heat Treating Unit No. 11 And On Planting, Cultivating And Harvesting Heat Treated Seed 307

Sugar Market Statistics Through June 25, 1956 309

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Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

The Old Mule

Instead of collapsing the other day, when the quota was increased 125,000 tons, our Old Mule actually has shown signs of rejuvination. The price of raw sugar in New York was 6.02 on June 22, the day of the increase, and today it is 6.09. This makes the timing of the increase look pretty good, and speaks well for the condition of our live stock.

Parity

Everybody must have noticed that even though the word "parity" does not appear anywhere in the Sugar Act, it is one of Mr. Myers' favorite excuses for keeping the price of sugar so low.

"Parity", to put it simply, is suppose to indicate how much a farmer has to get for his crops today to put his purchasing power on a parity with his purchasing power during the 1909 - 1914 base period. Each month the mathematical experts in Washington come up with what they call a "parity price" for various agricultural commodities and we notice that the parity price for sugarcane has advanced from $8.32 about a year ago to $8.52 on June 15th.

Labor Committee Meets

The Labor Committee of the American Sugar Cane League, of which the very able Mr. T. M. Barker is Chairman, met in Thibodaux on July 12th and agreed on the recommendations to be presented at the Government wage-price hearing to be held in Thibodaux on Thursday, August 2nd.

Grower-Processor Committee Agree

The Grower-Processor Committee, which is not a committee of the American Sugar Cane League, also met in Thibodaux on July 12th and agreed to recommend that the cane purchase contract for the 1956-57 Louisiana season be the same as last season's contract.

The Government hearing on fair and reasonable prices for cane is held in conjunction with the wage hearing and will be in Thibodaux on August 2nd.

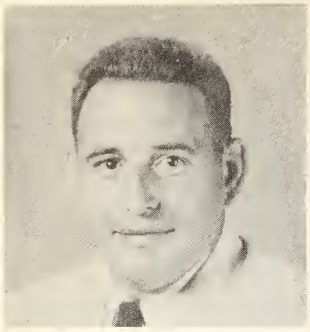
Acreage Allotments

On July 19th the Sugar Division will hold a hearing in New Orleans to obtain recommendations for use in determining the 1957 acreage allotments for Louisiana and Florida sugarcane farmers.

The Proportionate Shares Committee of the American Sugar Cane League, headed by Mr. W. S. Chadwick, will present the following recommendations at the hearing.

1. Restore proportionate share acreage to 1955 level.
2. Retain 80%-125% rule, but allow the County Committee to grant exceptions in cases of any uncontrolable cause.
3. New farms to remain at 5 acres.
4. No adjustment for farms of 25 acres or less except in the case of a farm reduced to 25 acres by

(Continued on page 306)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Summer Planting Time Near

Some areas are having difficulty getting land in shape for summer planting but, in general, as indicated by cane farmers, more summer planting will be done this year than was done last year.

In spite of the good stands experienced in summer plant cane in the past several years there are a number of operations that should be carefully watched each planting season.

Cane is usually short at the time of summer planting and therefore special care should be given to proper topping of the seed. There is a tendency toward high topping especially during the earlier part of the summer planting time. It is fairly easy to mistake the roll of top leaves for cane. Farmers should check the seed cutting operation frequently to see that the top knife is cutting good, sound cane and not just leaves.

Breakneck speed should certainly not be a part of summer planting. There is plenty of time for planting even if part of what is planned for summer planting must be carried over to fall planting. Much too often a *poor job* of *fast planting* is done. Even in summer planting, cane must be topped well and placed in every foot of the open furrow to get a stand of cane. A check on gaps in summer plant cane will usually indicate a skip in planting rather than poor germination.

It has been said in the past that no other operation of sugarcane farming was done more haphazardly than that of planting cane. The writer believes that growers, in general, have learned that a good job of planting is one of the big steps in doing a better job of farming.

C. P. 44-101 is still the number one variety from the standpoint of general adaptability, covering about 51% of the acreage in cane. C. P. 44-101 has done well in both heavy soils and in light soils in most areas. Unfortunately growers have been disappointed with C. P. 44-101 in the Bunkie area.

C. P. 36-105 is still doing fairly well on the Upper Lafourche and in other areas. Observations indicate that C. P. 36-105 has deteriorated rather badly in the western or Teche area. In general C. P. 36-105 will do much better on the lighter textured soils. Heavy land planting of C. P. 36-105 has been disappointing in many areas in the past several years.

C. P. 44-155 can be planted on mixed or medium textured soils but makes its best growth on light soils. Unfortunately the variety lodges rather badly when grown on light soils.

C. P. 36-13 is very particular in its adaptability. It grows well on certain farms in a Parish and very poorly on other farms in the same parish. The cane has a preference to sandy light textured soils.

N. Co. 310 is still a relatively new variety. The variety has a tremendous yielding capacity in tons of cane per acre. It will yield well in both

(Continued on page 310)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The 84th Congress is on the last lap of its two year course. Adjournment not later than August 5th is the goal of both Democratic and Republican leaders. Although several important bills such as Social Security and Foreign Aid are awaiting action, all of the big appropriations have been passed and with the National Conventions of both parties scheduled for August, the gavels of Speaker Rayburn and Vice President Nixon may sound the end of the session any time after July 25th.

* * *

For the past several weeks there have been persistent rumors that Cuba would discontinue the practice of mixing alcohol with gasoline for motor fuel, which, if true, might result in the dumping of some eighty to eighty-five million gallons of blackstrap molasses on the United States market.

Cuban officials in Washington disclaim knowledge of any intention to amend the Cuban law which requires that gasoline for motor fuel be blended, from fifteen to twenty percent with alcohol made from blackstrap molasses. Inasmuch as no bill to repeal or amend that law is pending in the Cuban Congress, it would seem that the rumors are not founded on fact. Anyway the Cubans say they are as much interested as domestic producers in maintaining a stable U. S. market. Over the past few years the Cubans have done a splendid job of selling both molasses and sugar and the outlook at the moment is for a good price this fall when Louisiana and Florida new crop blackstrap goes to market.

* * *

Conferences on the U. S. Department of Agriculture's 1958 Budget for Research will be held in Washington July 17th and 19th, when representatives of Mainland Cane and Domestic Beet growers confer with Under Secretary of Agriculture True D. Morse and Assistant Secretary of Agriculture E. L. Peterson. Beet and cane growers will attempt to obtain departmental approval of an overall increase of approximately three hundred and fifty thousand dollars for basic research such as genetic studies and exploration trips by U.S.D.A. scientists to areas of the world where wild sugar canes suitable for new breeding material may be found. The last such trip was made about a quarter of a century ago. Other important phases of research will also be discussed during these conferences.

* * *

The U. S. Department of Agriculture announced a determination of "fair and reasonable" wage rates for workers employed in the production, cultivation, and harvesting of sugarcane in Florida between July 1, 1956 and June 30, 1957, of 75 cents per hour for tractor drivers and operators of other mechanical equipment and 65 cents for all other workers. These rates are 5

(Continued on page 310)

OCCURRENCE OF THE RATOON STUNTING DISEASE IN LOUISIANA AND ITS CONTROL BY USE OF HOT-AIR TREATMENTS

R. J. Steib, L. L. Farrar, I. L. Forbes and S. J. P. Chilton

The use of a hot-air treatment for the control of the stunting disease of sugarcane in Louisiana was first recommended in the summer of 1953. This recommendation came from the committee on the control of stunting disease which was appointed by the Chairman of the Contact Committee of the American Sugarcane League.

The decision by the committee to recommend a hot-air treatment in Louisiana had its influence on the construction of hot-air chambers before many questions regarding their use had been worked out. Cane treated in either the mobile gas oven or ovens built by individual plantations showed a striking improvement in growth the following year over cane not treated. This response to a heat treatment convinced many growers of its value and provided a stimulus for undertaking an industry-wide control program.

Experimental work on use of hot-water and hot-air for the control of the stunting disease was begun at the Louisiana Agricultural Experiment Station and U.S.D.A. Station at Houma, Louisiana, the same year (1953) the disease was recognized in Louisiana. At that time, each station constructed for experimental use, an electrically heated hot-air oven having a capacity between 600 and 800 pounds of cane. Temperature distribution in these two small ovens (4′ x 4′ x 8′) is very even, having a plus or minus 2° F. variations.

The Ratoon Stunting Disease Committee felt that plans for another electrically heated oven of this type, but with a larger capacity, should be made available to the industry at the same time plans were distributed for the gas heated oven and the small electric oven.

Early in the spring of 1955, a large electric oven with a capacity of 2400 pounds was constructed using the basic design of the smaller experimental units. An electric oven of this capacity would give the farmer a choice between the use of gas or electricity as a source of heat since plans were already available for a gas heated oven of the same capacity.

Before plans for the large electric oven could be distributed, it was necessary to check its operation and temperature distribution. The first few runs showed that the temperature variations were greater in the larger oven than in the smaller experimental units. This meant that changes had to be made in the baffling and air deflector system until an even distribution of heat was obtained throughout the box. Operational and temperature checks were made over a two week period before plans were drawn up and made available to the industry.

Plans for the three units were distributed to the industry in the early spring of 1955. The small electrically heated unit was designated Unit I, the large electric unit as Unit II, and the gas heated unit as Unit III.

Individuals interested in the control program began constructing their units immediately after the plans were available. By planting time, 37 boxes of the Unit II type were ready for use. Some farmers built their own boxes, while others bought their boxes from the Lewis Doherty Silentaire Company of Baton Rouge, Louisiana. Thirteen have already been ordered in 1956. The total cost of the box (with racks) is $1408.00.

In order to check on the performance and temperature distribution of the new ovens built in 1955, the

TABLE I.

Amount of stunting disease present in field-run plant cane compared with cane treated in electric hot-air ovens.

No. Fields Checked	Variety	Heat-Treated Material		Field-Run Material		Percent Control
		No. Shoots Examined	% Showing Dis. Symptoms	No. Shoots Examined	% Showing Dis. Symptoms	
3	C.P. 36-13	70	1.4	46	93.5	98.6
23	C.P. 36-105	370	1.0	368	99.7	99.9
7	C.P. 43-47	110	0.0	110	96.4	100.0
22	C.P. 44-101	785	11.9	542	79.3	85.0*
6	C.P. 44-155	15	0.0	85	58.8	100.0
7	C.P. 47-193	50	2.0	100	20.0	90.0**
14	C.P. 48-103	130	0.0	25	40.5	100.0
21	N.Co. 310	180	0.0	318	43.1	100.0

* This low percent control due mostly to use of wrong oven temperature and overloading oven. (Of the 22 fields checked, 15 were free of the disease, 2 with only a trace, 1 with 10% and the remainder (4) with 40% or more of the cane diseased).

** One shoot was found diseased out of 50 examined in the treated plots, however, because the field-run cane was only 20% diseased, this made the per cent control appear low in this case.

Stunting Disease Committee recommended that all ovens be checked with a potentiometer and thermocouples. The committee also felt that the job of checking approximately forty ovens would be a difficult task for the limited personnel available to do the job. Therefore, it was decided to prevail on the County Agents from the sugarcane growing parishes for their assistance. Through the close cooperation of all parties concerned, the job was completed in approximately one month.

Stand counts and observations made in the fall and spring following the industry-wide control program showed that the treatment did not materially reduce the stand except in a few cases where the cane was left in the oven overnight without opening the door or when it was impossible to plant the cane immediately following treatment. Since there was no apparent injury to the stand due to the treatment, the logical step to be taken was to determine how effective the treatment was in eliminating the disease from the stalk. This presented a problem at that time of the year due to the fact that only young plants were available for examination. Work reported by Hughes and Steindi[1] indicated that the disease causes a pink discoloration in the young primary shoot while the growing point is still under the ground. Since the possibility existed that this technique could be used to determine the presence or absence of the disease, an investigation was begun as soon as the growing point of the primary shoot became distinguishable. This investigation was continued over a five week period. Every farm where cane had been treated the previous year was visited and a thorough examination of both the heat treated and field-run cane was made in order to determine how effective the treatment was in eliminating the virus from the stalk and also to determine the disease situation in the farmer's cane.

Table I gives the results of a survey to determine how effective the hot-air treatment is in controlling the ratoon stunting disease in Louisiana when cane is treated by individuals using an electrically heated-

(Continued on page 306)

SUMMARY OF IMPORTANT SUGARCANE VARIETAL INFORMATI

Sugar Crops Section, Field Crops Research Branch, Agricultural Research Ser

Variety		Stalk diameter (inches) C.P. 44/101=100	No. of tests	RESULTS ON LIGHT SOILS 1951 - 1955, INCLUSIVE: Ave. yield of cane per acre 1/ Net tons	Standard tons 2/	Average yields expressed as a percentage of C.P. 44/101: Net tons of cane per cane	Sugar per ton of cane	Sugar per acre: Plant cane	First Stubble	Second stubble	All tests
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
C.P.	44/101	(0.91)	174	27.88	30.43	27.88	180.407/	4951	5288	4839	5038
Co.	290	115	91	25.56	25.18	91	84	88	75	66	77
C.P.	29/116	119	104	28.05	28.43	98	80	87	81	69	79
C.P.	34/120	87	65	23.24	27.46	77	100	83	79	69	77
C.P.	36/13	107	125	23.75	27.25	84	103	99	84	73	87
C.P.	36/105	94	166	23.62	26.18	86	96	90	82	75	83
C.P.	43/47	91	144	23.44	27.29	81	103	88	82	81	83
C.P.	44/154	90	114	29.86	29.93	104	86	86	94	90	90
C.P.	44/155	111	173	23.21	26.67	83	104	93	83	85	88
C.P.	47/193	92	115	26.89	31.79	94	103	93	101	98	97
C.P.	48/103	103	93	24.93	32.69	90	120	109	108	106	108
N. Co.	310	108	91	30.63	34.92	107	100	115	102	103	107
C.P.	48/117*	100	40	32.39	32.44	113	88	102	98	98	100
C.P.	50/40*	103	14	31.64	36.87	94	102	106	78	85	96
											RED R
C.P.	44/101		12	15.99	16.67	15.99	171.47	2571	3272	2305	2742
C.P.	36/105		12	17.50	16.73	109	88	104	89	99	97
C.P.	44/155		12	13.79	14.53	90	102	98	70	107	92
C.P.	47/193		3	22.78	27.77	128	111	123	155	—	—
C.P.	48/103		6	18.90	24.36	128	118	142	145	152	146
N. Co.	310		4	24.78	26.77	150	98	136	160	—	—
				MISSISSIPPI RIVER-BAYOU LAFOURCHE AREA (Alma, Cinclare, Reserve, Glenwood, Bon Secour, B							
C.P.	44/101		82	29.97	31.31	29.97	174.90	5440	5110	5144	5241
C.P.	29/116		37	29.85	26.40	101	78	85	78	68	78
C.P.	34/120		40	24.86	27.46	83	100	87	84	75	83
C.P.	36/13		48	25.43	28.46	85	108	107	82	84	92
C.P.	36/105		82	26.37	29.17	88	99	93	84	83	87
C.P.	43/47		76	24.69	28.49	83	105	91	86	84	88
C.P.	44/154		37	31.29	30.30	106	85	82	97	92	90
C.P.	44/155		82	24.98	28.43	84	105	95	85	85	88
C.P.	47/193		61	27.98	32.56	95	102	93	100	101	98
C.P.	48/103		44	27.20	34.96	90	120	106	108	113	108
N. Co.	310		44	32.17	35.37	106	99	113	93	105	105
C.P.	48/117*		17	33.76	33.29	111	87	99	94	90	96
C.P.	50/40*		3	34.43	36.21	108	98	106	—	—	—
				BAYOU TECHE-LAFAYETTE AREA (Caffery, Oaklawn, Albania, Billeaud, Youngsville,							
C.P.	44/101		80	27.65	31.69	27.65	188.30	4781	5551	5206	5189
Co.	290		68	25.18	22.86	91	85	93	76	61	77
C.P.	29/116		66	27.01	24.74	97	82	89	81	70	80
C.P.	36/13		71	22.38	26.05	82	103	100	85	64	84
C.P.	36/105		72	21.53	24.36	79	96	83	78	61	75
C.P.	43/47		68	22.02	26.10	79	101	84	79	79	81
C.P.	44/154		76	29.06	29.57	104	87	87	93	90	90
C.P.	44/155		79	22.87	26.68	81	104	89	84	81	85
C.P.	47/193		49	25.91	31.07	92	103	92	101	96	95
C.P.	48/103		38	22.47	31.38	84	120	106	103	86	101
N. Co.	310		38	29.19	35.25	107	103	115	108	103	110
C.P.	48/117*		17	28.86	31.60	113	93	107	103	105	105
C.P.	50/40*		3	31.37	37.53	98	102	100	—	—	—

[1] For comparisons between net tons and standard tons for any given variety. In order to make con
[2] Standard tons calculated according to the Fair Price Determination for the 1955-56 crop. (Sugar
[3] Factor for determining theoretical sugar yield based on the Winter-Carp-Geerligs formula, makir
[4] Rate of inversion of sucrose in mill cane after cutting. The higher the number the greater the r
[5] 1 = very superior; 2 = superior; 3 = average; 4 = inferior; 5 = very inferior.
[6] Rating by Entomology Research Branch, U. S. Dept. of Agriculture and Entomology Dept. of the
vised with accumulation of more data or with change in tolerance to injury.
[7] Value based on results obtained with fresh, trash-free cane and with milling conditions comparat
relative varietal values shown in this column are considered representative.
[8] Generally mosaic-free; occasionally a trace or low per cent
* Unreleased varieties.

ASED ON TESTS CONDUCTED IN LOUISIANA DURING RECENT YEARS

l States Department of Agriculture and the Louisiana Agricultural Experiment Station
1956

RESULTS ON HEAVY SOILS 1951 - 1955, INCLUSIVE				Milla-bility factor	Inversion rating 4/	DISEASE SUSCEPTIBILITY		Erect-ness 5/	Susceptibility to borer damage 6/
Average Yields of sugar per Acre expressed as a percentage of C.P. 44/101						Mosaic	Red Rot		
lant ane	First stubble	Second stubble	All tests						
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
A S									
33	4852	4915	4538	1.00	1.00	Mod. Resist. 8/	Mod. Resist.	2.66	Suscept.
—	—	—	—	1.04	1.8	Suscept.	V. Suscept.	3.00	Mod. Suscept.
32	81	71	80	1.02	1.7	Resist.	Mod. Resist.	4.00	Average
75	74	64	73	.96	1.8	Resist. 8/	Suscept.	3.00	Resistant
—	—	—	—	1.02	1.0	Resist.	Resist.	2.33	Suscept.
36	78	71	80	.96	2.1	Resist. 8/	Mod. Resist.	2.00	Average
—	—	—	—	.98	1.6	Resist.	Resist.	1.83	Average
34	95	82	89	.98	2.5	Resist.	Mod. Resist.	3.50	Average
—	—	—	—	1.00	0.5	Resist.	Mod. Resist.	3.50	Suscept.
13	105	—	—	.98	4.7	Resist.	Mod. Resist.	2.66	Average
—	—	—	—	1.02	2.7	Resist.	Mod. Resist.	2.00	Suscept.
20	109	101	114	1.00	1.8	Suscept.	Mod. Suscept.	4.00	Suscept.
03	89	—	—	1.02	1.2	Mod. Resist. 8/	Mod. Resist.	1.75	Mod. Resist.
—	—	—	—	.98	2.2	Resist.	Mod. Resist.	2.50	Mod. Resist.
E A (SHIRLEY)									
wood, Elm Hall)									
6	4794	4915	4764						
	80	71	76						
	76	71	75						
	—	—	—						
	75	71	78						
	—	—	—						
	91	82	85						
	—	—	—						
	105	—	—						
	—	—	—						
	108	101	111						
	—	—	—						
	—	—	—						
)									
6	5383	—	4714						
	66	—	69						
	91	—	89						
	—	—	—						
	82	—	84						
	—	—	—						
	121	—	103						
	—	—	—						
	—	—	—						
	—	—	—						
	120	—	130						
	—	—	—						
	—	—	—						

tween different varieties see columns 5 and 10.
34, No. 2. October 15, 1955).
for variety differences in milling extraction.
oration.

gricultural Experimental Station based on infestation and tolerance to infestation. Rating may be re-

e of the most efficient Louisiana factories. A lower average commercial recovery may be expected but

OCCURRENCE

(Continued from page 303)

thermostatically controlled hot-air oven.

These data show very clearly that the ratoon stunting disease is rather wide-spread in all old commercial varieties being grown in Louisiana and also to a less extent in the recently released varieties, and that the disease can be controlled to a very high degree by use of a hot-air treatment.

This survey also served to convince a number of individuals that cane shoots affected with the ratoon stunting disease exhibit a pink discoloration in young immature nodes below the growing point and also that the same discoloration may be found in the nodal region of the first and second elongated nodes. These symptoms were found to be very reliable and in certain respects more dependable than the reddish-orange fibro-vascular bundles found in mature stalks because other diseases or certain injuries may cause the bundles to become discolored.

Literature Cited

[1] Hughes, C. G. and D. R. L. Steindl. 1955. Ratoon stunting disease of sugarcane. Bureau of Sugar Expt. Sta. Tech. Comm. 2: pps. 54.

UP FRONT

(Continued from page 299)

the 1956 acreage reduction. In this case it is recommended that the farm be restored to its 1955 level.

5. Under the 1956 determination base acreage history may be transferred when land is acquired by Federal or State agency having the right of eminent domain. It is recommended that this wording be expanded to include Federal, State or Municipal agency.

6. Amend that portion of the 1956 determination which pertains to the division of farms by:

a. Rewording the present first paragraph to clearly indicate that the regulation pertains to the division of sugar cane farms into one or more sugar cane farms only.

b. Change the base period used to determine a division from the present 5 years to the 3 years, 1954-1956.

c. Provide for alternative methods of distributing proportionate shares within two years of a subdivision by the County Committee with the consent of the producers involved on any one of the following bases:

1. Acreage of sugar cane for each subdivision over the 3 year period.

2. The 1957 measured acreage within the proportionate share at the time of subdivision.

3. The division of crop land suitable for the production of sugar cane in each subdivision.

d. Provide further that the sale or lease of a portion of a farm for non-farm use shall not necessitate a division of proportionate shares, subject to the limitation that the remaining proportionate share shall not be in excess of 75% of the remaining crop land suitable for production of sugar cane.

e. Set up the necessary provisions whereby a portion of a farm may be leased, rented or otherwise operated by someone other than the operator of the farm under an agreement covering a period not in excess of one year for the production of crops other than sugar cane without necessitating the division of proportionate shares.

S. C. Munson In Washington

In line with its continuing efforts to promote the welfare of the Louisiana Sugar Industry, the American Sugar Cane League has sent Mr. S. C. Munson to Washington to talk with Government officials about the need of our industry for more research work on sugarcane.

Mr. Munson is the Chairman of the League's very active Contact Committee.

Godchaux Changes Name

We have received the following

(Continued on page 308)

RECOMMENDATIONS AND SUGGESTIONS ON THE OPERATION OF ELECTRICAL HEAT TREATING UNIT NO. 11 AND ON PLANTING, CULTIVATING, AND HARVESTING HEAT TREATED SEED

by The Committee on The Control of Stunting Disease

I. Operation of heating unit.

1. Set ingoing air temperature (thermometer temperature) between 57° - 58°C. during treating period.
2. Do not overload the boxes. *This is important.* One ton is top limit.
3. Be certain that cane does not fall through supports or racks which will cause a blocking of air circulation.
4. Cane to be treated should be free of leaves.
5. Cane to be treated should be hand cut.
6. Cane should be cut immediately before the treatment.
7. Cane should be placed at least one foot from rear of box to permit good air passage.
8. Open treating chamber door immediately after treatment is completed to permit cane to cool. It is preferable to remove rack of cane from box immediately after treatment.
9. Check deflectors in rear of box to see that they are right.
10. Clean box after each variety is treated.
11. Check heating cones and mechanical operation before each treatment.
12. Keep area around box clean of cane. This will prevent an untreated stalk being mixed with treated material.
13. Be sure that temperature is maintained as recommended.
14. Treat cane as soon as possible after August 1 and not later than October 1.
15. Do not treat Mosaic cane.

II. Planting, Cultivation and Harvesting of Treated Cane.

1. Wagons to be used to haul cane from the heating unit to the field should be cleaned of all cane or pieces of cane before loading treated cane. If possible use different wagons to haul treated cane from those used to haul field run cane.
2. Plant in land free of volunteer cane.
3. If possible plant treated seed in land that has been out of cane for 2 years.
4. Use regular field planting rates.
5. Plant as soon after treatment as possible.
6. Do not "whack" cane in row.
7. It is suggested that cane be watered in the row before covering.
8. Cover with only 3 inches of soil.
9. Rolling or packing is suggested.
10. Cover again after cane comes up.
11. Do not plant a cover crop over treated cane.
12. It is suggested that treated cane *not* be *shaved.* If shaving is done,
    (a) Use the shaver in the treated seed first, before shaving field run cane, or
    (b) Treat the shaver blade with steam or by flaming, or
    (c) Run the shaver through one row of land that does not have cane planted, or stubble pieces, or volunteer cane on it.
13. Cultivation implements should be scoured by running the implement through one row which does not have cane planted, stubble pieces, or volunteer cane on it.
14. Use chemicals as method of weed control rather than hoeing to reduce possible recontamination.
15. Either cut the treated seed

(Continued on next page)

first before field run seed or allow the harvester to lay-up 2 weeks after cutting field run seed before going into treated seed.

16. If cane knives are used to cut treated seed, use new knives, or disinfect the knives in boiling water or by flaming.

17. Once the treating program is under way it is suggested that stubble of treated seed be used as the new source of seed to be treated.

———o———

UP FRONT

(Continued from page 306)

notice from Mr. Leon Godchaux II relative to a transfer of the Godchaux properties. The notice is dated July 1, 1956.

At a special meeting of the stockholders of Godchaux Sugars, Inc., held on June 25, 1956, the stockholders of the Corporation voted to:

1) Authorize the sale to the National Sugar Refining Company of the sugar refining, milling, and allied operations located at Reserve, La. and

2) Subject to consummation of the sale referred to above, to change the name of the Corporation to Gulf States Land & Industries, Inc.

The sale was consummated on Wednesday, June 29, 1956 and this is to advise that the name of Godchaux Sugars, Inc. is now changed to Gulf States Land & Industries, Inc., with main offices located at 1105 Carondelet Building, New Orleans 12, La. Our telephone number in New Orleans is EXpress 3434.

The Officers of the Corporation, duly elected at a Board of Directors Meeting, held on June 25, 1956 are:

William Zeckendorf, Chairman of the Board; Leon Godchaux II, President; Walter Godchaux, Jr., Vice-President; Richard McCarthy, Jr., Vice President; William Zeckendorf, Jr., Vice President; Harry V. Lett, Secretary; E. N. Martin, Sr., Comptroller.

Members of the Executive Committee are Nicholas M. Salgo, Chairman, Leon Godchaux II, George E. Scanlon, and William Zeckendorf, Jr.

The Gulf States Land & Industries, Inc. will continue to handle all remaining company operations which include agricultural activities on all company property as at present, sale of all by-products, operation of the Raceland mill for production of Turbinado Sugar, molasses, and by-products, and mineral development on all of the Company's 33,000 acres, in addition, new and important development programs for both industrial and residential real estate are being undertaken on Company properties, particularly in St. John the Baptist Parish.

We wish to take this opportunity of thanking our many customers, associates, and friends for their wholehearted cooperation during the past years, with the hope that it will continue for many years to come.

National Announces Purchase

On June 28th the National Sugar Refining Company made the following press release regarding the purchase of the Godchaux Reserve refinery.

"The National Sugar Refining Company announced today that it has purchased the refinery of Godchaux Sugars, Inc. at Reserve, Louisiana, together with the business, trade-mark and good will of the Godchaux brand.

The National Sugar Refining Company paid $6,000,000. in cash at the closing for the fixed assets of Godchaux's sugar refining business. It also is paying cash for certain current assets such as accounts receivable, inventories, and manufacturing supplies. To help finance the purchase, National has arranged a $5,000,000. seven year bank loan.

In his statement announcing the purchase, Horace Havemeyer, Jr., President of The National Sugar Refining Company said "The acquisition of the Godchaux refinery will enable us to serve many users

SUGAR MARKET STATISTICS THROUGH JUNE 25, 1956

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.02	6.00	6.00
QUOTA RAWS DELIVERED NEW ORLEANS	5.98	5.94	5.97
WORLD SPOT RAWS (In Cuba)	3.34	3.34	3.38

SUGAR FUTURES No. 6
(Closing Bid Prices)

	Sept.	Nov.
Today	5.54	5.57
1 Month Ago	5.56	5.59
1 Year Ago	5.59	5.61

OFFSHORE RECEIPTS AT NEW ORLEANS
(Long Tons, 2,240 lbs.)

	To Date 1956	Same Date 1955
American	188,847 tons	196,336 tons
Godchaux	117,666 tons	97,064 tons
Colonial	102,420 tons	85,782 tons
Henderson	62,692 tons	48,082 tons
Southdown	29,945 tons	7,740 tons
South Coast	35,534 tons	21,902 tons
Supreme	59,635 tons	47,326 tons
Totals	596,739 tons	504,232 tons

we have not been able to serve before and will give the company greater flexibility in its operations. In our operation of the Reserve Refinery, we will try to provide the same efficient service and convenience to the housewife and industrial user that has been our goal in our New York and Philadelphia refineries."

The National Sugar Refining Company operates two refineries, one in New York and one in Philadelphia, and one of the most modern warehouses and packaging plants in the industry at Cleveland, Ohio. It distributes pacakaged sugars to the grocery trade under three brand names, Jack Frost, Quaker and Arbuckle's, and a variety of bulk and liquid sugars to confectioners, soft drink bottlers, food processors, pharmaceutical companies, paper makers, and other industrial users.

Godchaux packaged, bulk and liquid sugars are primarily marketed in the South under the Godchaux trade-mark. The Godchaux brand, which has held an important place in the sugar industry for almost a century, will be maintained.

Founded in 1900, The National Sugar Refining Company is the second largest refiner of cane sugar in the nation. Since 1951, the Company has reported expenditures for modernization and improvements totalling $9,400,00. In a speech before The New York Society of Security Analysts on May 24 of this year, Horace Havemeyer, Jr., President of the Company, stated that National's two refineries could increase production by 60% without further increases in plant or equipment."

In addition to the above we note that Mr. Sedwick Howard, of the National staff, has been named General Manager of the Reserve Division, with Mr. Alvin J. Sievert, General Sales Manager, and Mr. Duane Williams, Refinery Superintendent.

Lamborn & Co., Inc. will continue their connection with the Godchaux brand as general brokers representing the Reserve Division of the National Sugar Refining Co.

(Continued on next page)

Alfred Lippman, Jr. Available

The change in the Godchaux set-up has resulted in the termination of the employment of Mr. Alfred Lippman, Jr. as plant manager of the Reserve Refinery.

He is a Tulane graduate, having finished first in his class in 1929 with a degree of Bachelor of Engineering in Chemical Engineering.

Before coming to Godchaux in 1953, he was with The Chemical Rubber Co. of Cleveland, Ohio for three years; the Bay Chemical Co., of Weeks Island, La., for nineteen years and the Commonwealth Engineering Co. of Ohio, at Dalton, Ohio for a year and a half.

Mr. Lippman's address is P. O. Box 386, Reserve, La., and his telephone is Keystone 6-3775.

"The Scientific Nibble"

Sugar Information Inc.'s latest national advertising campaign will be pointed up with a full-page advertisement in the July 23 issue of Life Magazine.

Accenting the key phrase, "Scientific Nibble," the advertisement tells how sugar actually can help the dieter to curb his oversize appetite. The "Scientific Nibble" is described as a between-meal snack which is designed to renew the dieter's energy and to help him to avoid overeating at the next mealtime.

Illustrating the message is a picture of a tall glass of ice tea into which a spoonful of sugar is being poured.

Also featured is a box in which is noted the fact that a teaspoon of sugar contains only 18 calories, which are used up in seven and a half minutes of normal activity.

Leo Burnett Company, Inc., Chicago, is the agency for Sugar Information, Inc.

The Right To Work

Well gee whiz! We admit we asked for it, but not this much.

———o———

IN WASHINGTON

(Continued from page 301)

cents per hour higher than those which were applicable to the 1955-56 period. The provision in prior determinations requiring producers to furnish workers the customary housing and similar perquisites has been eliminated. Other provisions of the prior determination remain unchanged.

When workers are employed on a piecework basis the average earnings of individual workers during each pay period must be not less than the applicable hourly rates. Most of the unskilled field work is performed on a task or piecework basis.

The perquisite provision has been in effect for many years during which working and living conditions and worker requirements have undergone great change. The Department believes that the elimination of this provision will have little effect upon the furnishing of currently important perquisites and will permit greater flexibility in making adjustments to meet future conditions.

* * *

A hearing in connection with new definitions provided in the Sugar Act of 1948, as amended by Public Law 545, 84th Congress, will be held by the U. S. Department of Agriculture in Room 218, Administration Building, Washington, D. C., July 30, 1956, beginning at 10 a. m. EDT, and anyone interested is invited to attend.

The purpose of the hearing is to provide a basis for determining whether specific processes to which sugars are subjected are sufficient to fulfill the requirements of the term "to be further refined or improved in quality" as used in paragraph 101 (n) of the Act, and whether sugars of specific qualities are "raw sugar" or "direct-consumption sugar" as these terms are used in other paragraphs of the Act.

———o———

IN THE FIELD

(Continued from page 300)

light and heavy soils, but somewhat like C. P. 44-155 it will lodge badly

some years in light soils. Check N. Co. 310 on the farm in small quantities before making wide scale planting.

C. P. 48-103, one of the two canes released last year, is a *high sucrose, early maturing cane.* Try it. Don't let its looks discourage its planting. It produces more sugar per acre than any other cane for the first few weeks of grinding.

C. P. 47-193, the other cane released last year, should be tried. It was released with the thought that it could be used on some of the heavy soils. Sucrose was fairly early in the variety last year. Many have indicated plans for expanding the variety.

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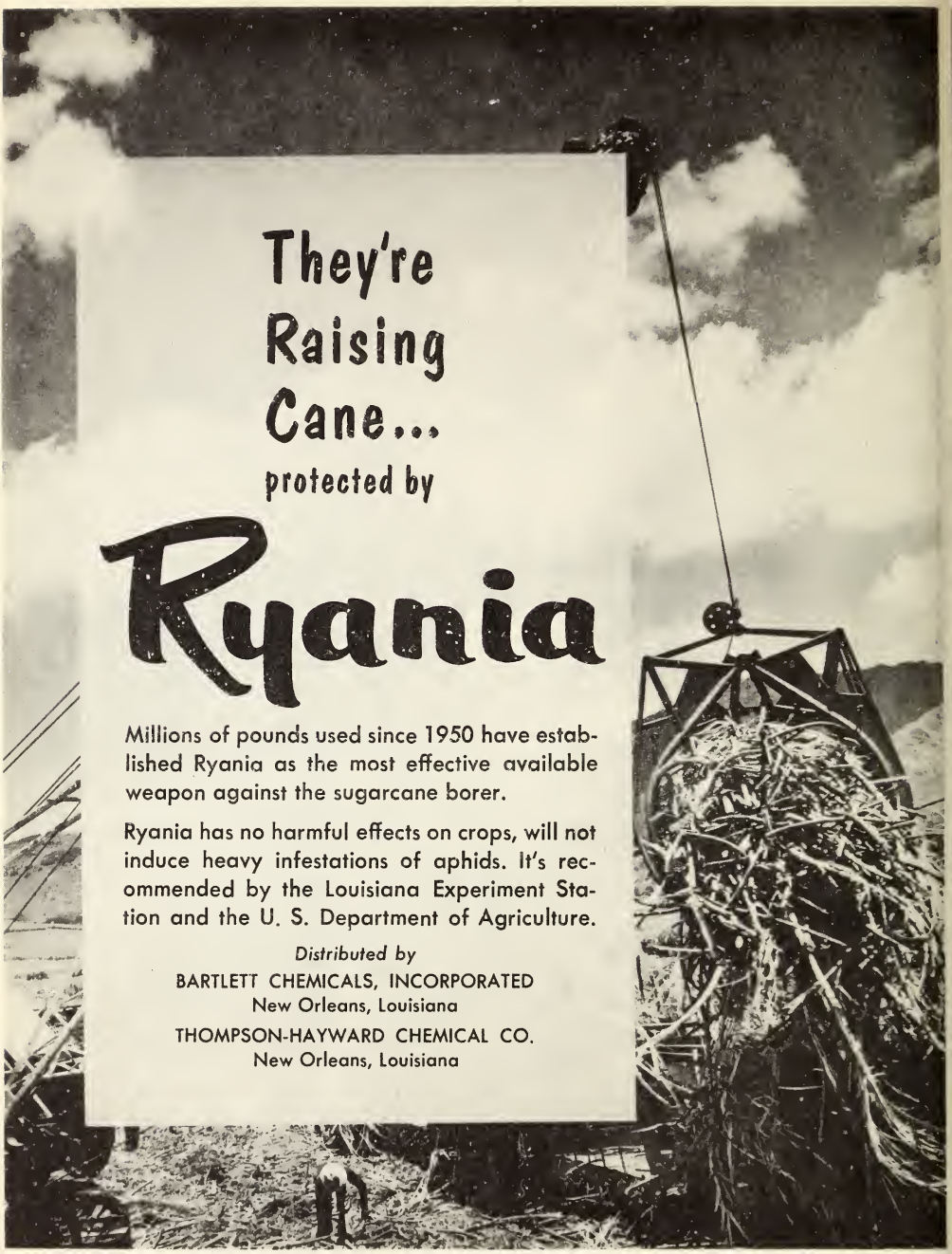

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THE SUGAR BULLETIN

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In This Issue

Up Front With The League 315
Acreage Increase Urged—League President Honored—Mr. Voorhies Travels—Not Rock 'n Roll, We Hope

In The Field With Lloyd L. Lauden 316
1956 Sugarcane Variety Recommendations For Louisiana

In Washington With Joe Ferris 317

Testimony Of William S. Chadwick At Proportionate Shares Hearing July 19, 1956 318

Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
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Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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We stand for the encouragement of Home Industries as against Foreign Competition

UP FRONT WITH THE LEAGUE

by A. W. Dykers

Acreage Increase Urged

The Government acreage allotment hearing for Louisiana and Florida was held, as per schedule, in New Orleans on July 19th and the American Sugar Cane League recommended an increase in acreage for the 1957 cane crop. The League asked that the 13% cut we took this year be restored for 1957. That would put us back to the 1955 acreage level.

The League recommendation was endorsed by the Florida representatives attending the meeting and also by the Louisiana Farm Bureau representatives.

W. S. Chadwick, Chairman of the Proportionate Shares Committee acted as spokesman for Louisiana and his testimony is printed in this issue beginning on page 318.

W. M. Alewine and O. S. Homstead conducted the hearing for the Government in their usual efficient manner and word has been received from Washington that Mr. Myers hopes to be able to issue the 1957 acreage ruling by August 1st.

League President Honored

F. A. Graugnard, Jr., President of the American Sugar Cane League, who spent the better part of three weeks in Puerto Rico recently as a management representative on a Government committee studying the Puerto Rican minimum wage situation, arrived home just in time to be the honored guest at a soil conservation luncheon held in Donaldsonville on July 24th.

Mr. Graugnard was named the year's outstanding conservation farmer a few weeks ago and he told the folks at the luncheon that the three most effective aids to good farming were (1) recommendations and assistance of the soil conservation service, (2) the availability of agricultural extension service information and the energy and zeal of its representatives, and (3) the bringing to the farm of teachings resulting from research of agricultural experiments stations and the department of agriculture.

We go along 100% with Mr. Graugnard's statement.

Mr. Voorhies Travels

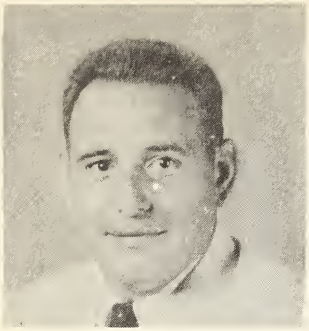
We received a telephone message a few days ago that pleased us very much. It was from Marcel J. Voorhies, Vice President Emeritus, and former General Manager of the American Sugar Cane League, who was leaving for New York with Mrs. Voorhies to begin a boat trip around the world.

We rejoice in the knowledge that Mr. Voorhies is well enough to go journeying to far off places and are sure that our "bon voyage" to him and Mrs. Voorhies is echoed throughout the length and breadth of the Louisiana sugar district. This couldn't happen to two nicer people.

Not Rock 'N Roll, We Hope

We copied the following warning from the July Shell Chemical Agricultural News bulletin "SCAN". It

(Continued on page 326)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

1956 Sugarcane Variety Recommendations For Louisiana

Prepared jointly by personnel of the Louisiana State University Agricultural Experiment Station, Baton Rouge, Louisiana, and the United States Department of Agriculture Sugarcane Field Station, Houma, Louisiana.

The following recommendations are based primarily on results obtained in outfield test plots under the supervision of the State and Federal stations over a period of several years. At the present time C. P. 44/101 appears to be the most valuable variety for general planting in all areas and on all soil types in the sugarcane district with the possible exception of the Red River area, where yields of C. P. 36/105 have been approximately equal to those of C. P. 44/101. While C. P. 44/101 is recommended generally as the major cane, other varieties have a place for certain purposes.

The three more recently released varieties, C. P. 48/103, C. P. 47/193, and N. Co. 310, for example, have shown superiority over both C. P. 36/105 and C. P. 44/101 in some tests. C. P. 48-103 is by far the earliest maturing variety available, and a sufficient acreage should be planted for harvest during the early part of the harvest season. C. P. 47/193 is also earlier maturing than C. P. 44/101 and may be grown on the heavier soil types. N. Co. 310 has given yields of cane and sugar equal to or a little above those of C. P. 44/101 and is slightly superior in cold tolerance, but it is relatively late maturing. It is more likely to lodge than C. P. 44/101 and is susceptible to mosaic and red rot. Cane to be used for seed should be inspected for mosaic and rogued where necessary.

Many growers are still obtaining satisfactory results with C. P. 36/105, and as a rule it matures earlier than C. P. 44/101. It is more resistant to the borer than C. P. 44/101 but does not withstand freeze injury as well.

C. P. 44/155, C. P. 43/47 and C. P. 36/13 are higher in sucrose than C. P. 44/101 and may be grown on the best drained light soils as secondary canes where recommended below. C. P. 43/47 is the best variety we have for machine cutting but it has not yielded well in some areas.

Recommendations by areas are as follows:

1. Avoyelles, Rapides, upper St. Landry and Point Coupee Parishes:

a. Light soils: C. P. 48/103 for early harvesting. C. P. 44/101, C. P. 36/105, C. P. 36/13 and N. Co. 310.[1]

b. Heavier soil types: C. P. 44/101, C. P. 47/193 and N. Co. 310.[1]

2. East and West Baton Rouge, Iberville, Ascension, lower Point Coupee and St. Landry Parishes:

a. Light soils: C. P. 48/103 for early harvesting. C. P. 44/101, C. P.

(Continued on page 326)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The U. S. D. A. announced that after the close of business July 25th, certification by the Department will be required before any direct-consumption sugar from Cuba may enter the United States.

Such certification, which will remain in effect until January 1, 1957 was required because more than 80% of the quantity of direct-consumption sugar that may be entered from Cuba in 1956 had already arrived. The certification method is a means of preventing entries of sugar in excess of the Cuban quota.

* * * *

The International Sugar Council held a special meeting in London July 30th. The purpose of the meeting, as stated in the call, was to consider a change in export quotas. Despite the fact that initial quotas originally established a 90% of "Basics" have not been changed, certain principal areas of supply have made sales in excess of their present quotas.

It is understood that Cuba asked for an increase to 105% of "Basics", and for a reallocation of the deficits of other areas that cannot make their quotas. Although some opposition to the Cuban proposal developed it seems a foregone conclusion that quotas will be increased.

Sugar Division Director, Laurence Myers, veteran of many International Sugar Council meetings did not go to London. The United States was represented by Mr. William N. Case, of the U. S. D. A.

Eastern seaboard refiners, liquid sugar and molasses producers flocked to Washington for the U. S. D. A. hearing July 30th on new definitions to be included in the Sugar Act of 1948, as amended by Public Law 545 —84th Congress. The hearing was called by the Secretary of Agriculture to receive evidence which would enable him to determine whether specific processes to which sugars are subjected are sufficient to fulfill the requirements of the terms "to be further refined or improved in quality", "raw sugar", and "direct- consumption sugar."

Wide difference of opinion by various segments of the refining industry, manufacturers of liquid sugars and producers of Puerto Rican raws, caused a heated and wordy battle. The fight was not unexpected, however, because it has been brewing for nearly two years. It started when Laurence Myers, Chief of the Sugar Division, U. S. D. A. appointed a task force of members of domestic producing and refining groups with instructions to draft new definitions for the controversial terms. The new definitions were to be more in line with modern trade practices and requirements.

The Task Force presented Majority and Minority reports. The issues involved are so technical that even some of the brainiest technicians cannot agree on a solution. Therefore it is understandable that offi-

(Continued on page 326)

TESTIMONY OF WILLIAM S. CHADWICK AT 1957 PROPORTIONATE SHARE HEARING, JULY 19, 1956

My name is William S. Chadwick. I reside at New Orleans, Louisiana. I am associated with Southdown Sugars, Inc., a grower and processor of sugar cane operating in the State of Louisiana, in the Mainland Cane Sugar Area.

I appear at this informal public hearing on behalf of the American Sugar Cane League of the U.S.A., Inc., a non-profit corporation of the State of Louisiana, created for the purpose of protecting and promoting the welfare of the Louisiana sugar cane growers and processors. In addition to its processor members, this organization is composed of growers who produce more than 95% of the sugar cane grown in Louisiana for the production of sugar.

I am Chairman of a special committee of the American Sugar Cane League composed of thirteen Louisiana growers. The members of this committee were appointed prior to the informal public hearing held on June 24, 1953, with respect to the 1954 Proportionate Share Determination and were reappointed in 1954, 1955 and again this year.

This committee is composed of both relatively large and relatively small growers. Its views and recommendations have been approved by unanimous vote of the committee.

The first and most significant problem for determination at this time relates to the 1957 acreage objective, and what adjustment to 1956 proportionate shares are necessary to obtain this objective. Acreage in sugar cane means revenue to the producers, and the mainland producers, with few exceptions, are wholly dependent on such revenue. This is their life blood.

We request the Department to bear in mind that as a result of restrictive proportionate shares, the proportionate share sugar cane acreage in the Mainland Cane Sugar Area has been reduced from approximately 345,000 acres in 1953 to approximately 247,000 acres in 1956, or a reduction of approximately 30%. With no increase in price and no substitute cash crop, the mainland producers have been able to survive this crisis only because of an almost unprecedented series of years with highly favorable growing and harvesting weather conditions accompanied by a modest increase in yield per acre. As a result, production has not decreased in ratio to acreage reduction.

Primarily because of the plight of the producers of the mainland area, the Congress of the United States in May of this year enacted certain amendments to the Sugar Act of 1948, which afford some quota relief by giving to the domestic areas a share in the increase in sugar consumption requirements of the continental United States.

As a result of these amendments to the Sugar Act, and based on the present estimate of consumption requirements, the quota today for the mainland cane sugar area is 560,000 tons, or an increase of 60,000 tons over the quota provided by the statute prior to the recent amendments. It appears entirely probable that before the end of the year 1956, the estimate of consumption will be again revised so as to increase our 1956 quota to approximately 580,000 tons. Additional increases will follow from increases in consumption and also, undoubtedly, from the allocation of deficits from other domestic areas, now authorized under the 1956 amendments to the Sugar Act.

We fully appreciate the problem of the processors of the area with respect to inventories of over quota sugar. We also fully appreciate the problem of the Secretary of Agriculture in staying within the reasonable bounds of the Sugar Act with

respect to proportionate shares sugar cane and the quantities of sugar produced therefrom.

If it were not for these impediments of law and fact, the only logical recommendation to adequately serve the interest of the sugar cane producers would be a full restoration of 1953 proportionate shares acreage. We realize, of course, this would be unreasonable, unrealistic and impossible under the circumstances.

However, in our opinion, it would be just as unreasonable and unrealistic to refer to the inventories of sugar in the area and permit no restoration of acreage, on the theory that the excess year-end inventories must be eliminated in one or two years by the continuation of a 30% reduction in proportionate share acreage.

As I have stated, it was primarily the plight of the producers of sugar cane in the mainland area which prompted the Congress to amend the Sugar Act so as to give some quota relief. The members of Congress were undoubtedly impressed with the hardship resulting from a 30% reduction in acreage while at the same time importations of foreign sugar were increasing each year. They concluded relief was essential to maintain the economy of the sugar cane producers operating in the area. Therefore, it would be doing violence to the spirit of the Congressional will if some substantial part of the 30% acreage reduction were not restored in 1957.

In our deliberations we have been fully cognizant of the provisions of the Sugar Act and the problem of the Secretary of Agricutlure thereunder. Since many of us are also processors, we have been necessarily ever mindful of the inventory problem of the processors. In our thinking, within these restrictive limits, we have attempted to provide a reasonable solution to the problem which in the long run will prove to be a wise step in terms of the economic life of the industry as a whole.

It is, therefore, our conclusion and recommendation that the 1957 proportionate share acreage for the mainland cane sugar area be restored to the 1955 proportionate share acreage for the area. Such restoration would mean 285,000 proportionate share acres in the year 1957. We know of no mainland processor who will oppose this recommendation as to the 1957 acreage objective, and we are firmly convinced such recommendation is completely consistent with a fair and proper administration of the letter and spirit of the Sugar Act as recently amended.

To intelligently demonstrate the results of this recommendation, we have prepared a table entitled Calculations of Probable Effective Inventories of Sugar In Mainland Cane Area, January 1, 1957 and 1958, which discloses the inventory and production picture in the area beginning with the January 1, 1955 effective inventory, and projected through the effective inventory of January 1, 1958. I offer this table in evidence and ask that it be properly marked for identification.

This table shows the effective inventory for the area as of January 1, 1955 and January 1, 1956 as 396,000 tons and 468,000 tons, respectively. We have used the 468,000 ton figure with the full realization that the January 1, 1956 effective inventory, as reflected by the Department's records, is 391,000 tons. The 468,000 ton figure includes the 77,000 tons purchased after January 1, 1956 by the Commodity Credit Corporation. We use the larger figure merely to reflect conditions that actually existed. The 1956 crop estimate, in terms of sugar, is based on 247,000 proportionate share acres and assumes a yield of sugar per acre of 2.007 tons. We have used this yield figure since it is the area yield for the last completed crop year, although the records indicate the 1955 yield was the highest in the history of the area. If an average of any recent years were used the

(Continued on next page)

yield and resultant crop estimate would be less than shown on our table.

If we are to be realistic, we must appreciate the very basic fact that the first acres to be eliminated in the three years of acreage reductions were the least productive ones. The elimination of marginal land automatically resulted in higher average yields. Certainly, this factor affected average figures in 1954 and to a certain extent in 1955. The additional acreage reduction of 13% in 1956, however, made necessary the elimination from production of some of our better lands. The artificial stimulant to average yield figures is, therefore, removed. Average yield figures for 1954 and 1955 support this line of reasoning. Recognition of this principle prohibits the use of an estimate for 1956 in excess of the one mentioned above.

The 1957 crop, in terms of sugar, is estimated on the 1955 acreage, as recommended by us, and assumes the same 1955 sugar yield per acre that is used in estimating the 1956 crop.

The table contains two 1956 and 1957 quota figures. We believe the figures in the second column, which indicate a quota of 580,000 tons in 1956 and 587,000 tons in 1957, are the more reasonable and realistic assumptions.

The table assumes there will be no crop failure or partial crop failure in the mainland area in 1956 or 1957. It also assumes there will be no increase in the area's quota as the result of the reallocation of deficits from other domestic areas.

With no crop failure and no reallocation of deficits, and assuming a yield of sugar for 1956 and 1957, based on the largest yield in the area's history, the table shows that on January 1, 1958, the effective inventory would be reduced to 292,000 tons, as compared with 468,000 tons on January 1, 1956. The Department should not reasonably expect by January 1, 1958 and further reduction in effective inventory through acreage restrictions.

We desire to point out that assuming our 1956 estimated yield of sugar per acre is substantially correct, and our recommendations are adopted, the total sugar actually produced in 1956 will be something less than the 496,000 tons shown in the table, for the reason that in increasing the 1957 acreage as compared with 1956, it will be necessary to use more 1956 crop cane in planting the 1957 crop than is normal. We estimate this will reduce the quantity of sugar produced from the 1956 crop by some eight or ten thousand tons. This would reduce the January 1, 1958 effective inventory to approximately 283,000 tons.

In considering proportionate share acreage for 1957 and subsequent years through the year 1960, when the present Act will expire, a significant factor, which is not considered in our tabulation and which cannot be scientifically projected or estimated, is that of crop failures in the area. A second similar factor is the probability of deficits in other areas which would result in a reallocation of quota to the mainland area.

In the 16 years beginning with the year 1940 through the year 1955, the area has experienced three crop failures. These were in the years 1940, 1947 and 1951, and all as a result of adverse weather conditions. In 1940 the area produced only 332,000 tons of sugar from 284,000 acres of sugar cane, while in 1955, from approximately the same acreage the area produced 572,000 tons of sugar. In 1947, the area produced only 377,000 tons of sugar from 326,000 acres of sugar cane. In 1951, the area produced only 419,000 tons of sugar from 341,000 acres of sugar cane. Such crop failures are dreaded by all producers and processors in the area, but unfortunately it is reasonable to believe such conditions will again occur sometime prior to 1961.

Based on the production history of the domestic areas subsequent to the enactment of the Sugar Act of

1937, it appears almost inevitable that within the five years ending in 1960, the mainland cane sugar area will obtain substantial quota assistance from the reallocation of deficits in other domestic areas. The years in which such deficits have existed and the amounts of the deficits in the several domestic areas, respectively, are shown in a table prepared by us entitled Domestic Area Deficits Under The Sugar Quota System, 1934-1955, which I offer in evidence and ask that it be given the necessary mark of identification.

Since the beginning of the quota system, quotas have been in effect during each of the sixteen years. Quotas were suspended during the war years. The table I have offered shows that in ten of the sixteen years one or more of the domestic areas have experienced deficits. Under the Sugar Act as recently amended any such deficit would be reallocated to the remaining domestic areas. Our table shows the per cent of the deficits and the tons of deficits which would have been reallocated to the Mainland Cane Area under the Sugar Act as presently written. It will be noted, the quantities are rather substantial.

The effect of crop failures in the Mainland Cane Area and of deficits in other domestic areas, as reflected by the two tables I have offered, should be given substantial consideration in determining permissible year-end inventories. From year-end inventories the area should be able to fill its quota any year in which it experiences a crop failure or partial crop failure, and should be able to fill the additional quota which it would receive in instances of the reallocation of deficits from other domestic areas.

We realize, in spite of these eventualities, inventories cannot be unreasonably large, because of the position of the processors who must carry these inventories. However, they must be considered in arriving at the proper acreage and production objective in any year.

We, therefore, strongly recommend and urge that the proportionate share acreage in 1957 be restored to the 1955 proportionate share acreage.

In establishing the proportionate shares for the individual farms we recommend that the 1957 base for each farm for which a proportionate share was established under the 1956 program, be the 1956 base. The 1957 proportionate share for such farm should then be such base.

We also recommend a continuation in substance of that portion of paragraph 855.3 (a) (1) of the 1956 determination which fixes the base of a farm on which the acreage in the prior year was less than 80% of the proportionate share, to the larger of 5 acres or 125% of such prior year's acreage. However, the clause in this provision which excepts therefrom those farms whose deficiency of more than 80% resulted from drought, flood, storm, freeze, disease or insects, as determined by the appropriate county committee, should be broadened to include any cause beyond the producer's control, as determined by the appropriate county committee.

In view of the fact that in 1956 farms with bases of 25 acres or less were not adjusted downward in establishing proportionate shares, in making this restoration in 1957, such farms should not be adjusted upward, except in the case of a farm which was reduced to 25 acres under the 1956 determination. In such latter case, the 1957 proportionate share should be restored to the 1955 proportionate share.

Under paragraph 855.3 (a) (4) (i) of the 1956 determination, it is permissible to transfer farm bases where the land to which the bases are applicable is removed from sugar cane production because of acquisition by purchase or lease by any Federal or State agency having the right of eminent domain. The recent

(Continued on next page)

amendment to the determination broadens the provision to include other agencies having the right of eminent domain. We approve of this provision, but recommend that instead of restricting such provision to cases involving only designated agencies or entities, it be made applicable to cases involving any agency or entity having the right of eminent domain. We believe this is the intent of the recent amendment.

In the 1956 determination, under paragraph 855.3 (a) (4) (ii), there is included a provision relating to dividing or combining ownership tract acreage records. This provision has resulted in many inequitable situations and does not meet the needs of producers where farms are split or subdivided.

Each splitting or subdividing of a farm, regardless of how accomplished, presents a different and peculiar problem. No one rule or formula can be prescribed that will fit all cases, or that will do justice under all circumstances. Therefore, it is imperative that the county committees and interested producers be given the widest possible latitude, within the framework of the Sugar Act, when an apportionment of proportionate share acreage is necessary because of a division or subdivision of a farm.

We have given this problem much consideration, and if the Act prohibits a division of the proportionate share by mutual agreement of the interested producers, as we recommended last year, then alternative methods should be prescribed in the determination for application by the appropriate county committee, which application should be in accord with the written concurrence of the interested producers, where such concurrence is possible.

We, therefore, recommend, in substance, that in any case where a sugar cane farm as constituted for the 1956 program, whether consisting of one or more owenrship tracts, is subdivided for the production of sugar cane under the 1957 program, either into two or more sugar cane farms, or into parts of separate sugar cane farms, or into a separate sugar cane farm or farms and part or parts of a farm or farms, a 1957 base for each subdivision should be determined by one of the following methods:

1. Multiply the 1956 base of the farm which is subdivided by the percentage that the total crop land acreage suitable for the production of sugar cane in each subdivision is of the total acreage of such crop land in such farm.
2. Multiply the 1956 base of the farm which is subdivided by the percentage that the total acreage of sugar cane in each subdivision of the farm for the crop years 1954 and 1955 plus the 1956 measured acreage within the proportionate share, is of the total acreage of sugar cane in such entire farm within the proportionate shares for said three years.

The determination should then provide that upon obtaining approval of the appropriate county committee, the interested producers may adopt either of said methods to determine the proportionate share of such subdivision of the farm, which approval shall be obtained by submitting to the county committee, in writing, within such time as may be prescribed by the committee, an agreement or application to that effect, signed by each such producer.

Until such interested producers so select one of these methods within said prescribed time, or if no method is so selected by them within the prescribed time, or if the method selected cannot be approved by the appropriate county committee, then the proportionate share of each subdivision should be determined as follows:

(a) Where an ownership tract of land (a farm or a portion of a farm which is separately owned) which was part of a

farm as constituted for the 1956 program becomes a part of another farm or a separate farm under the 1957 program, a base for such tract shall be determined by the method prescribed in subparagraph (2) above.

(b) Where an ownership tract of land which was part of a 1956 farm is subdivided, there shall first be determined the base for the ownership tract by the method prescribed in subparagraph (2) above. The base for each subdivision of such tract shall then be determined by the method prescribed in subparagraph (1) above.

(c) Where a 1956 farm consisting of one ownership tract is subdivided, the base for each subdivision shall be determined by the method prescribed in subparagraph (1) above.

The methods of apportioning proportionate shares based on sugar cane acreage and on total crop land acreage, as set out in subparagraphs (1) and (2), are generally similar to the methods prescribed in the 1956 determination. The one difference in substance is in the method based on sugar cane acreage, we recommend the use of the three prior years, 1954, 1955 and 1956, rather than five prior years.

To avoid a disruption in orderly operations or a loss of proportionate share acreage to any subdivision of a farm, an additional provision should be incorporated in the determination. We recommend that the determination contain a provision which would permit the interested producers in those cases where a farm is divided or subdivided after the planting of the 1957 crop and prior to its harvest, to elect, subject to the approval of the county committee, to permanently apportion proportionate shares by one of the two methods set out above, and at the same time to elect to apportion proportionate shares for the 1957 crop under the following method:

Multiply the 1956 base of the farm which is subdivided by the percentage that the 1957 measured sugar cane acreage within the proportionate share in each subdivision of the farm is of the 1957 total measured sugar cane acreage within the proportionate share in such entire farm.

In this way, the producer of each subdivision would be permitted to complete and harvest the 1957 crop of proportionate share sugar cane on the farm operated by him at the time of the 1957 harvest. However, such apportionment may be completely inequitable in terms of historical proportionate share acreage or in terms of cropland acreage suitable for the production of sugar cane, if made permanent. Under our recommendation, on the completion of the 1957 crop, conditioned on prior approval of the county committee, the one of the other methods selected would be the basis of permanent apportionment of proportionate shares.

Under the 1956 determination where a portion of a farm is sold, leased or otherwise split off for nonfarm use or for farm use other than sugar cane, the Department has ruled that the apportionment of proportionate shares provision is applicable, and the tract which is so split off takes with it its pro rata part of proportionate share acreage. For instance, let us assume a farm of 1,000 acres has a proportionate share of 400 acres. The owner then sells 200 of the 1,000 acres, to be used as an industrial site. The 200 acres, as an industrial site, will never be planted in sugar cane. Nevertheless, this farm would lose 20% of its proportionate share, or 80 acres. This is entirely inequitable and should be rectified. We can conceive of no reason, either equitable or legal, why this farm should be so penalized. The farm retains more than ample acreage to properly pro-

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CALCULATIONS OF PROBABLE EFFECTIVE INVENTORIES OF SUGAR IN MAINLAND CANE AREA JANUARY 1, 1957 and 1958

	Calculation No. 1 (1000 tons)	Calculation No. 2 (1000 tons)
1. January 1, 1955 effective inventory	396	396
2. January 1, 1956 effective inventory 1/	468	468
3. 1956 Crop 2/	496	496
4. Sum of items 2 and 3	964	964
5. 1956 quota and Government purchase	637 3/	657 4/
6. January 1, 1957 effective inventory	327	307
7. 1957 Crop 5/	572	572
8. Sum of items 6 and 7	899	879
9. 1957 quota	581 6/	587 7/
10. January 1, 1958 effective inventory	318	292

1/ Includes 77,000 tons of sugar purchased by the C.C.C. after January 1, 1956.

2/ 247,000 acres (Estimated 1956 acreage in U.S.D.A. press release October 14, 1955) multiplied by 1955 crop yield of 2.007 tons of sugar (1955 crop of 572,000 tons divided by 285,000 acres).

3/ 560,000 ton quota plus 77,000 ton Government purchase.

4/ 580,000 ton quota plus 77,000 ton Government purchase.

5/ The 1955 acreage of 285,000 acres and the record high yield of 2.007 tons of sugar made in 1955 were used in making this estimate.

6/ Consumption estimate of 8,700,000 tons assumed.

7/ Consumption estimate of 8,800,000 tons assumed.

Note: The above calculations do not take into consideration any increase in the mainland cane area quota which may result from reallocations of a deficit in some other domestic area.

duce sugar cane, and the acreage which is so split off is obviously not sugar cane crop land, as conclusively evidenced by its use.

Therefore, we recommend that the determination contain a provision to the effect that a sale, lease or other splitting off of acreage from a farm, which is found by the appropriate county committee to be so split off for other than farm use, or for farm use other than sugar cane, shall not be considered a division of the farm for the purpose of dividing proportionate share acreage, and shall not have the effect of reducing the proportionate share of the farm from which the tract was taken; provided, however, in no event should the farm's proportionate share exceed

DOMESTIC AREA DEFICITS UNDER THE SUGAR QUOTA SYSTEM, 1934 - 1955

Year	Beet	M.C.	Hawaii	Puerto Rico	V.I.	Total	Per Cent to M.C. 1/	Tons to M.C. 1/
	(Tons)	(Tons)	(Tons)	(Tons)	(Tons)	(Tons)		
1936	212,136	-	-	-	1,871	214,007	21.23	45,434
1937	216,352	-	4,341	-	-	220,693	34.22	75,543
1938	-	-	29,671	-	5,123	34,794	16.27	5,661
1941	-	121,038	270,178	63,829	-	455,045	-	-
1942-47 (War)		-	-	-	-	-	-	-
1948	112,262	86,740	227,000	-	-	426,002	-	-
1949	300,000	-	400,000	-	-	700,000	34.22	239,540
1951	100,000	-	90,000	-	-	190,000	34.22	65,018
1952	240,000	-	80,000	-	-	320,000	34.22	109,504
1953	180,000	-	-	-	-	180,000	21.11	37,998
1954	-	-	9,000	-	1,500	10,500	16.27	1,708
Totals	1,360,750	207,778	1,110,190	63,829	8,494	2,751,041	-	580,406

SOURCES: Sugar Statistics and Sugar Reports published by U.S.D.A. and Public Law 545, 84th Congress, 2nd Session.

1/ Amounts of deficits mainland cane area would have received from other areas if present Sugar Act had been in effect, assuming each domestic area would have been able to use the full amounts of deficits reallocated to such area.

NOTE: Since the beginning of the quota system, there have been 16 years, exclusive of war years (when quotas were suspended). In 10 of the 16 years one or more domestic areas had deficits.

75% of the remaining cropland suitable for the production of sugar cane, excluding such cropland which became a part of the farm since 1954 and which had no sugar cane history at the time it became a part of the farm.

This 75% limitation is suggested in order that the proportionate share of such a farm may not be completely out of proportion to the available cropland suitable for the production of sugar cane.

We know of no objection which has been made or could be validly made by any producer to our recommendations with respect to the division of proportionate share acreage where a farm is divided or subdivided. Therefore, we submit that these recommendations should be incorporated in the 1957 determination unless for some reason, it is found by the Department that the recommendations are in direct violation of a reasonable interpretation of the Sugar Act. If there is any possible doubt as to the latitude permitted under the Act, then the doubt should be resolved and the Act construed and administered so as to avoid the imposition of hardships and inequities on those persons who are vitally affected by the statute. If any of our recommendations are, in the opinion of the Department, in conflict with the Act, we request the Department to point out to us in what respect the conflict exists.

In all other respects we recommend that the provisions of the 1956 proportionate share determination be incorporated, in substance, in the 1957 determination.

IN THE FIELD

(Continued from page 316)

44/155, C. P. 36/105, C. P. 36/13 and N. Co. 310.[1]

b. Heavier soil types: C. P. 44/101, C. P. 47/193 and N. Co. 310.[1]

3. Assumption, St. James, St. John, St. Charles, Lafourche and Terrebonne Parishes:

a. Light soils: C. P. 48/103 for early harvesting. C. P. 44/101, C. P. 44/155,[2] C. P. 43/47, C. P. 36/105 and N. Co. 310.[1]

b. Heavier soil types: C. P. 44/101, C. P. 47/193 and N. Co. 310.[1]

4. St. Mary, Iberia and St. Martin Parishes:

a. Light soils: Limited plantings of C. P. 48/103 for early milling on the most fertile soils. C. P. 44/101, C. P. 44/155,[2] C. P. 36/13, C. P. 36/105 and N. Co. 310.[1]

b. Mixed and heavier soil types: C. P. 44/101, C. P. 47/193, N. Co. 310[1] and C. P. 44/154.[3]

5. Lafayette, Vermillion and terrace soils in St. Landry Parish:

a. Light soils: Limited plantings of C. P. 48/103 for early milling on the most fertile soils. C. P. 44/101, C. P. 44/155,[2] C. P. 36/13 and N. Co. 310.[1]

b. Mixed and heavier soil types: C. P. 44/101, C. P. 47/193, N. Co. 310[1] and C. P. 44/154.[3]

---

[1] Although N. Co. 310 has given superior yields in practically all tests, severe lodging has occurred under favorable conditions. N. Co. 310 is susceptible to mosaic. It is also susceptible to red rot and when grown on heavy soils, the soils should be well drained.

[2] C. P. 44/155 is subject to lodging.

[3] C. P. 44/154 has produced high yields of cane per acre but matures relatively late in the season and is subject to extreme lodging.

UP FRONT

(Continued from page 315)

is self-explanatory.

"WATCH WHAT YOU SAY around plants! Some people are now claiming that plants listen—and what's more they like music and prefer women's voices. There is some data already collected which indicate that sugar cane, tapioca, and sweet potatoes grow faster when entertained with music. Research is continuing at the International University, Pondicherry, India, where music is being broadcast to 'listening' plants."

Don't laugh. This could be serious. Suppose our canes go in for this rock 'n roll stuff. What then?

———o———

IN WASHINGTON

(Continued from page 317)

cials of some of the companies concerned also are confused. One Vice President after reading the testimony of his company's witness and listening to the witness' oral explanation was heard to say: "I read what you wrote and heard what you said, but I'll be darned if I understand either!"

The government witness at the hearing prefaced his "middle of the road" testimony with the following statement—"It does not appear practical, necessary, nor in the public interest for the representative of the Department (Agriculture) to present a proposal prior to the submission by interested persons of evidence relevant to the subjects and issues involved."

After the refiners and Puerto Ricans knock each other out, the government will step in and write the definitions.

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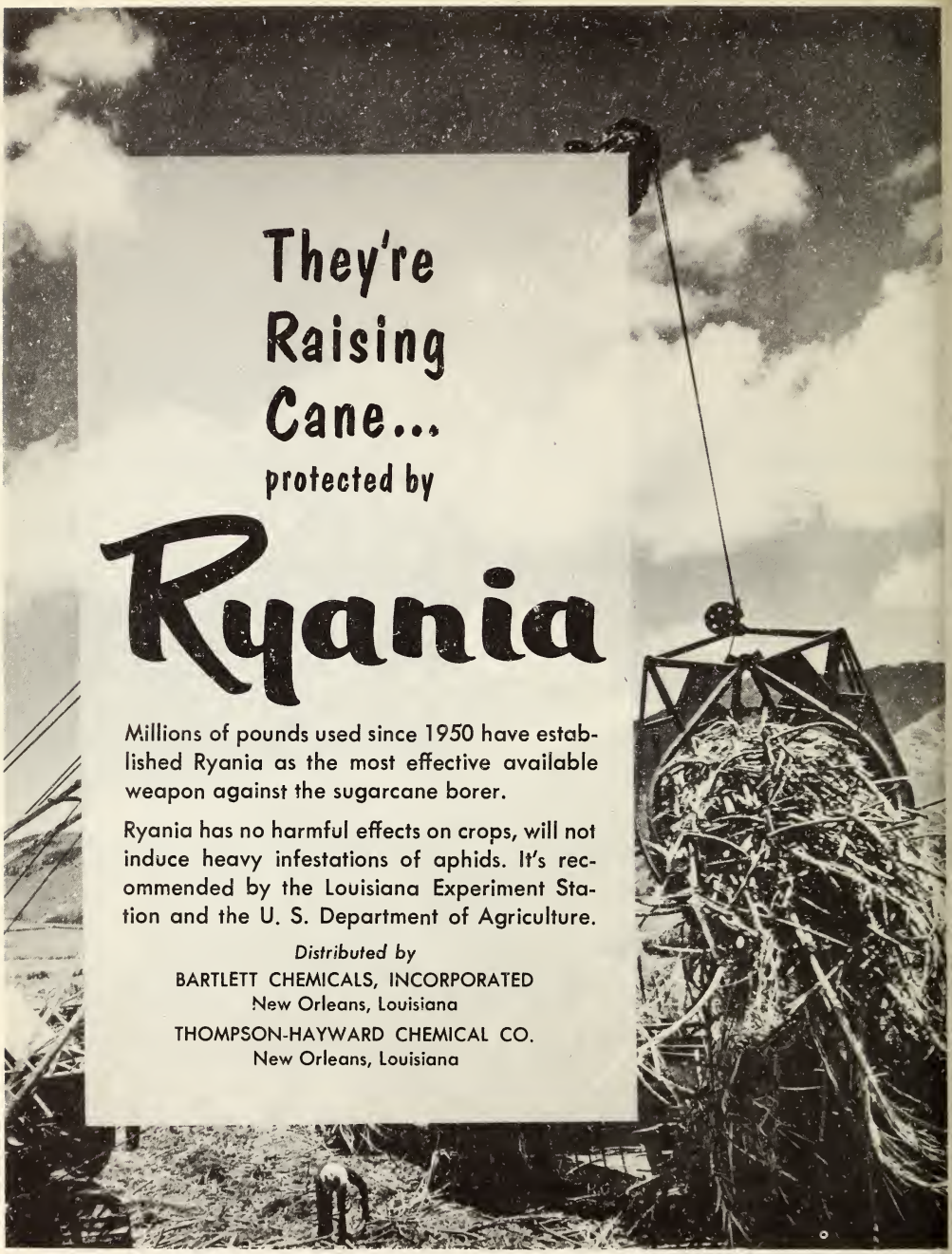
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THE SUGAR BULLETIN

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SPECIAL STATISTICAL ISSUE

In This Issue

Official Production Tables, 1952-55:
Cropland Acres—Proportionate Shares Acres—Total Planted Acres 331
Proportionate Shares Harvested For Sugar—Yield of Cane Per Acre—Yields of Recoverable Sugar Per Acre 331
Milling Results 1946-1955 332
Production; Sugar, Syrup and Molasses 1946-1955 332

In The Field With Lloyd L. Lauden Get Good Stands of Cane In Heavy Soil By Using Chlordane..... 333

The Louisiana Sugarcane Variety Census For 1956—Leo P. Hebert..... 334

Results of Sugarcane Variety Tests In Louisiana During 1955—R. J. Matherne, Leo P. Hebert 338

The Effect Of Stunting Disease Of Sugarcane On Yields Of Cane And Sugar In Louisiana, And The Use Of Heat Treatment For Control—C. A. Schexnayder 349

Fertilizer Investigations On Sugarcane in 1955—Lester G. Davidson..... 356

Fertilizer For Sugarcane—D. S. Burnside, Jr., M. B. Sturgis 365

Outfield Sugarcane Variety Trials, 1955—T. J. Stafford, C. B. Gouaux.... 375

1956 Marketing Allotments For Mainland Cane Sugar Processors..... 381

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Lloyd L. Lauden, Agronomist and Field Representative

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CROPLAND—PROPORTIONATE SHARE—PLANTED ACRES OF LOUISIANA SUGARCANE FARMS PARTICIPATING IN THE SUGAR PROGRAM (SUGAR ACT OF 1937) BY PARISHES, FROM A.. A. A. REPORTS

PARISHES	Cropland (Acres)				Proportionate Shares (Acres)				Total Planted (Acres)			
	1952	1953	1954	1955	1952	1953	1954	1955	1952	1953	1954	1955
Ascension	23,874.8	24,050.4	22,560.2	21,963.9	13,923.3	13,402.1	12,863.8	11,364.5	14,040.8	13,461.1	13,368.5	11,612.7
Assumption	47,527.4	46,315.7	45,676.5	42,224.7	29,900.3	31,428.3	27,680.6	25,685.6	29,963.8	31,431.3	27,924.1	25,957.0
Avoyelles	6,238.2	7,945.1	6,639.7	7,916.6	1,735.4	2,147.6	1,689.4	1,789.1	1,901.8	2,352.0	1,814.6	2,046.0
East Baton Rouge	1,288.7	822.9			388.3	83.6			388.3	83.6		
East Feliciana		50.0	50.0	50.0			.4	.4		.5	.4	.4
Iberia	76,181.6	75,695.0	77,304.7	72,615.5	39,340.1	40,589.2	36,652.1	33,352.5	39,706.8	40,635.9	38,104.6	34,364.0
Iberville	37,296.2	38,822.9	39,049.7	39,349.5	19,510.9	20,135.7	17,899.3	16,651.4	20,451.8	20,802.8	18,792.0	17,469.5
Lafayette	21,106.5	17,040.3	18,095.1	19,416.9	8,874.7	8,901.7	7,647.4	7,219.5	8,925.9	8,956.0	7,817.0	7,383.8
Lafourche	49,936.6	49,659.5	42,275.5	43,367.6	29,040.1	29,895.3	25,129.3	24,234.6	29,040.1	29,895.3	25,129.3	24,446.0
Pointe Coupee	26,893.1	26,085.7	26,064.2	26,013.1	9,581.4	8,857.7	8,685.8	8,544.5	9,581.4	8,857.7	8,811.5	8,646.1
Rapides	5,087.8	3,274.3	2,960.1	3,330.5	972.9	708.9	674.7	659.9	1,083.8	755.8	703.2	791.7
St. Charles	2,594.0	2,527.4	2,781.4	2,783.8	1,699.6	1,529.3	1,441.3	1,329.6	1,699.6	1,529.3	1,483.9	1,365.8
St. James	29,522.5	30,662.5	29,663.3	29,444.1	17,482.9	17,299.7	15,466.7	14,382.6	17,482.9	17,299.7	15,895.9	14,712.0
St. John	25,489.1	22,706.3	22,257.0	22,264.3	15,044.6	15,179.7	13,239.6	12,560.0	15,704.2	15,715.4	13,975.5	13,396.7
St. Landry	879.0	886.3	231.6	231.6	172.1	184.9	128.6	117.5	398.3	364.5	128.6	117.5
St. Martin	43,837.7	38,791.7	37,947.8	41,651.6	18,872.2	19,475.8	16,932.6	16,728.2	18,987.9	19,520.3	17,025.8	16,770.1
St. Mary	60,883.2	58,170.0	97,916.6	53,457.1	36,877.5	37,863.8	32,031.4	30,053.7	36,877.5	37,866.3	32,324.7	30,483.8
Terrebonne	54,120.4	56,197.8	53,262.5	50,257.4	33,393.7	35,032.2	31,513.7	28,526.3	33,403.7	35,052.6	31,547.9	28,626.3
Vermilion	15,781.6	14,620.6	14,784.8	13,212.9	2,760.9	2,633.2	2,511.1	2,360.3	4,164.7	4,018.6	3,603.2	3,709.8
West Baton Rouge	24,813.3	23,891.4	23,759.2	24,585.9	13,489.0	13,527.3	12,235.0	12,051.0	13,620.8	13,700.4	12,536.1	12,541.1
West Feliciana	12,655.6	10,829.3	12,741.3	12,741.3	1,686.4	1,778.1	1,939.2	1,962.9	1,686.4	1,778.1	1,939.2	2,012.2
TOTAL	566,007.3	549,045.1	576,021.2	526,898.3	294,746.3	300,654.6	266,362.0	249,576.1	299,110.5	304,077.2	272,926.0	256,454.5

PROPORTIONATE SHARE ACRES HARVESTED FOR SUGAR—YIELD OF SUGARCANE PER ACRE AND YIELD OF RECOVERABLE SUGAR PER ACRE OF LOUISIANA FARMERS PARTICIPATING IN THE SUGAR PROGRAM (SUGAR ACT OF 1937) BY PARISHES FROM A. A. A. REPORTS

PARISHES	Prop. Share	Proportionate Shares Harvested for Sugar (Acres)				Yield of Cane Per Acre Tons				Yield of Recoverable Sugar per Acre CWT			
	1955	1952	1953	1954	1955	1952	1953	1954	1955	1952	1953	1954	1955
Ascension	11,897.2	13,175.3	12,681.6	12,062.2	10,780.4	20.30	20.60	22.95	25.21	33.11	36.39	38.22	37.65
Assumption	25,912.8	27,799.1	29,677.1	25,651.4	24,094.0	22.14	22.35	25.72	25.83	35.26	39.40	43.35	39.90
Avoyelles	1,942.2	1,571.2	2,026.6	1,517.2	1,660.1	16.08	15.09	16.46	17.67	24.21	24.94	27.12	25.88
East Baton Rouge		375.1	82.1			20.46	18.22			30.38	31.76		
East Feliciana	10.0		.5	.4	.4		13.60		22.50		23.44		25.12
Iberia	34,840.0	36,253.1	37,194.1	33,787.6	30,396.3	17.74	17.87	19.23	20.14	28.48	31.56	32.19	32.22
Iberville	17,380.1	18,135.9	18,765.1	16,537.2	15,604.1	21.65	22.34	26.60	28.13	33.80	37.55	43.13	42.86
Lafayette	7,806.9	8,212.9	8,302.3	7,001.4	6,625.4	20.02	19.69	20.03	22.50	30.56	33.85	31.03	32.27
Lafourche	25,295.6	27,370.5	28,502.8	23,735.7	22,927.3	22.24	21.54	24.98	25.96	36.35	37.43	42.11	42.17
Pointe Coupee	10,109.7	9,225.7	8,291.3	8,180.6	8,127.5	18.95	21.91	22.63	26.14	29.94	37.11	36.16	38.97
Rapides	695.5	935.7	685.9	645.1	632.8	22.26	22.15	21.83	26.63	31.49	38.47	36.00	38.85
St. Charles	1,349.2	1,620.8	1,437.0	1,369.1	1,272.2	20.72	20.15	23.75	26.03	33.50	33.98	38.17	41.50
St. James	14,859.7	16,486.3	16,366.7	14,599.5	13,625.0	21.92	22.34	24.41	27.10	35.76	38.98	41.20	43.22
St. John	12,891.5	13,812.5	14,252.0	12,336.1	11,777.9	22.59	21.29	24.00	25.74	37.44	37.33	40.94	43.09
St. Landry	121.4	154.1	166.9	121.6	112.5	17.55	18.70	15.62	20.60	29.08	31.87	24.55	28.73
St. Martin	19,317.7	17,795.1	18,105.6	15,679.7	14,821.6	20.35	17.13	19.21	20.31	31.53	29.74	32.55	30.86
St. Mary	31,098.8	34,037.7	34,918.2	29,455.2	27,989.2	19.14	19.06	20.13	21.47	32.39	33.69	34.27	36.29
Terrebonne	29,052.9	30,947.8	32,716.8	29,258.0	26,849.3	21.40	21.70	23.05	26.86	36.38	39.74	40.51	44 41
Vermilion	3,639.3	2,460.3	2,295.8	2,313.5	2,137.1	16.79	15.51	18.49	20 97	26.31	26.00	29.32	30.53
West Baton Rouge	12,402.5	12,388.8	12,259.3	11,194.8	11,202.2	23.37	24.20	27.19	28.36	36.34	41.66	44.69	45.11
West Feliciana	2,153.5	1,627.0	1,513.9	1,696.9	1,810.7	25.03	25.66	19.68	28.43	39.22	41.78	33.43	43.26
TOTAL	262,772.5	274,384.9	280,241.6	247,143.2	232,448.0	20.65	20.55	22.75	24.36	33.40	35.95	38.16	38.64

RECAPITULATION OF FINAL REPORTS OF LOUISIANA SUGAR CANE FACTORIES, CROPS 1946-1955, By Mr. Grayson of P. & M. A.

Total for State Factories	60	59	59	54	54	54	54	54	54	53
Year	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Crop Days	66.20	68.50	78.8	67.4	64.2	54.2	64.24	69.5	62.9	63.9
Lost time % total time	19.44	28.42	22.98	16.45	11.57	15.32	11.81	14.56	13.08	12.61
Cane: Tons ground, gross weight	4,483,843	4,045,964	5,459,637	5,210,195	5,550,549	4,663,774	5,869,257	6,054,764	5,941,406	5,949,155
Tons ground, net weight		3,917,100	5,256,644	4,983,982	5,311,857	4,462,854	5,666,917	5,759,310	5,624,800	5,664,412
% Total Cane Ground, Gross Weight	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Tons Ground per Hour	55.57	55.48	60.47	67.63	71.52	74.34	77.08	74.53	79.39	83.74
Extraction N. J. % Cane	72.32	70.61	71.90	72.86	72.21	72.09	72.74	71.23	72.39	73.16
Sucrose Extraction, %	90.06	89.06	89.58	90.57	90.10	89.45	89.76	88.97	89.69	90.13
Maceration % Cane	16.02	19.40	17.74	17.63	17.04	13.89	15.69	18.56	17.08	17.58
Fiber % Cane	14.84	15.15	14.95	14.58	14.96	14.50	14.35	14.78	14.51	14.28
Java Ratio	75.82	75.39	75.83	76.66	76.18	74.79	76.93	75.61	75.98	76.72
Analysis										
Crusher Juice Brix	16.50	16.53	16.32	16.66	17.19	15.39	16.93	17.32	16.89	16.52
Crusher Juice Sucrose								13.64	13.34	12.68
Brix Factor (Final Report)	97.21	97.52	97.12	97.06	97.15	97.27	97.06	97.00	96.92	96.85
Sucrose Factor (Final Report)	94.40	95.14	94.45	95.30	95.04	94.57	94.95	94.43	94.15	94.56
Normal Juice Brix	16.04	16.12	15.85	16.17	16.70	14.97	16.43	16.80	16.37	16.00
Normal Juice Sucrose	12.31	12.33	11.91	12.37	13.03	10.80	12.22	12.88	12.56	11.99
Normal Juice Purity	76.74	76.49	75.14	76.38	78.02	72.14	74.38	76.67	76.73	74.94
Factory Syrup, Brix	57.20	56.92	57.22	58.56	58.24	56.91	58.81	58.13	56.55	57.96
Residual Juice Brix	6.51	6.27	6.50	6.23	6.50	6.60	6.67	6.37	6.42	5.98
Bagasse Sucrose	3.08	3.16	3.08	2.90	3.22	2.93	3.23	3.40	3.27	3.07
Bagasse Moisture	49.23	49.87	49.28	49.27	48.45	49.51	49.69	50.06	49.99	49.82
Bagasse Fiber	46.39	45.69	46.19	46.43	46.63	46.18	45.75	44.20	45.45	45.68
Press Cake Sucrose	3.98	3.86	4.18	3.68	4.10	4.42	3.81	4.21	4.08	4.17
Sucrose Balance										
Molasses, Sucrose % Cane	1.001	1.012	1.084	.996	1.132	1.261	1.164	1.105	1.022	1.096
Press Cake, Sucrose % Cane	.120	.168	.191	.147	.158	.165	.156	.180	.165	.169
Undetermined, Sucrose % Cane	.297	.365	.273	.211	.234	.228	.177	.269	.184	.151
Bagasse, Sucrose % Cane	.983	1.069	.997	.938	1.034	.920	1.014	1.137	1.045	.959
Total Losses, Sucrose % Cane	2.401	2.614	2.545	2.292	2.558	2.574	2.511	2.691	2.416	2.375
Sugar, Sucrose % Cane	7.486	7.157	7.017	7.659	7.886	6.154	7.390	7.622	7.720	7.353
Total, Sucrose % Cane	9.887	9.771	9.562	9.951	10.444	8.728	9.901	10.313	10.136	9.728
Pounds 96° Sugar M&E Ton Gross Cane	155.95	149.10	146.19	159.56	164.29	128.21	153.96	158.79	160.83	153.19
Pounds 96° Sugar M&E Ton Net Cane				166.80	171.67	133.98	159.46	166.93	169.88	160.89
Gals. F. M. (B/S) M. & E. T/C 80 Brix	6.74	6.78	7.15	6.80	6.90	8.01	7.82	6.94	6.67	7.28
Boiling House Efficiency Number	95.64	93.73	94.39	96.97	94.45	93.16	97.83	94.61	96.61	96.83

LOUISIANA MILL REPORTS

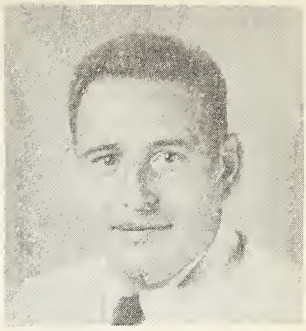
Production of Sugars (tons, 2,000 lbs.), Syrup, 1st Molasses, 2nd Molasses, and Blackstrap—1946-1955

	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Raw Sugar 96°	180,954	211,305	298,371	308,866	331,156	215,730	325,929	358,424	376,391	363,234
Clarified	28,877	1,378	325	0	0	------	------	------	------	------
Turbinados	53,162	16,243	22,325	26,856	35,527	26,078	36,294	37,635	41,790	43,949
Granulated	56,633	60,379	65,804	58,746	70,534	44,019	67,199	64,910	46,710	31,754
Washed Raws	0	xx0	0	0	6,248	4,273	8,393	6,373	------	4,870
String—Others	1,129	0	755	178	796	------	157	460	275	904
Total Sugars (Raw Value)	331,128	296,932	397,293	415,811	456,246	296,566	450,690	480,633	478,413	455,209
Sirup—Gallons	3,098,897	3,118,159	494,726	1,075,843	1,725,787	1,085,220	1,314,161	892,146	1,224,999	1,397,874
1st Molasses—Gallons	9,596,030	2,179,258	2,192,738	1,588,612	2,730,680	1,599,423	1,997,349	1,506,982	1,450,251	1,640,898
2nd Molasses—Gallons	3,993,164	2,966,514	1,823,747	1,725,655	1,608,557	1,684,990	2,079,561	1,451,038	1,369,755	1,552,163
Blackstrap (Actual Gallons)	21,231,304	21,676,476	33,279,520	30,121,524	32,703,162	32,202,814	39,030,897	36,330,800	34,198,437	37,902,846

xx Included in clarified production.

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden



Get Good Stand Of Cane In Heavy Soil By Using Chlordane

Are you usually successful in getting good plant cane stands on heavy soils? Would you like to get better stands? If you haven't been too successful and would like to do better then follow what the Entomologists of both the U.S.D.A., Houma Sugar Station and of the L.S.U. Experiment Station say about *Chlordane.*

The use of Chlordane on heavy soils in the cane belt is not new. The scientists of both the U.S.D.A. and the L.S.U. Stations have recommended its use for the past two crops. Furthermore, many sugar farmers have been using it with very good results for the same period of time. Chlordane kills many soil insects and small soil animals which feed on cane roots and leave wounds for root-rotting organisms to enter.

The large number of tests conducted showed that 2 pounds of technical Chlordane per acre gave an average increase in plant cane of 2.8 tons per acre. Chlordane also has a carryover effect into 1st stubble as indicated by a number of tests. Seven experiments showed a 2.7 ton increase in yield per acre in 1st stubble as a result of the 2 pound Chlordane application when that cane was planted.

It is important to remember that increase yields have *not* been obtained in the light sandy soils, and that soil treatment is *not* recommended on the light soils except in the area near Edgard, Louisiana, where wire worms are bad.

Below are the recommendations of the U.S.D.A. and L.S.U.:

> *"Dust*: Since the amount of dust applied should be sufficient to insure proper distribution, 100 pounds of a 2 per cent dust per acre is recommended. This will furnish the 2 pounds of technical material required for each acre treated. A fertilizer distributor has been found satisfactory for applying the dust.
>
> *"Spray*: For spray applications, either the emulsifiable concentrate formulation or the wettable powder may be used. However, the emulsifiable concentrate is the better form if the spray equipment available does not have an agitator. It mixes more readily with water, and is less likely to plug up the nozzles. *Do not use chlordane oil solution, since the oil will harm the cane."*

The open furrow should be covered as soon as possible after applying chlordane."

The cost of this treatment is not prohibitive. The cost of the Chlordane plus the application amounts to about $4.50 per acre. An increase of about 2.5 tons of plant cane per acre plus a similar increase in 1st stubble will more than pay for the cost of this treatment and still leave a yearly gain of $16 to $17 per acre.

THE LOUISIANA SUGARCANE VARIETY CENSUS FOR 1956

By Leo P. Hebert, Research Agronomist, Field Crops Research Branch, Agricultural Research Service, United States Department of Agriculture.

The relative position occupied by different varieties in percentage of the State sugarcane acreage and the changes in the acreage devoted to 11 commercial varieties were determined for the 1956 crop in a survey just completed. With the generous assistance of the county agents[1] in 16 sugar-producing parishes of Louisiana the acreage devoted to each of the principal commercial varieties in each parish was either estimated by the agent from his on-the-spot knowledge of the parish in which he works or, in many of the cases, from an actual survey conducted by means of questionnaires sent to a large number of farmers. The acreage summarized for this report constitutes 98.96 percent of the State proportionate share of cane grown by farmers participating in the sugar program as reported by the Agricultural Conservation Program Service of the United States Department of Agriculture. (Table 1, footnote 1).

Results of the variety census for 1956 are presented in table 1. Table 1-A gives the percent of the acreage occupied by each of 11 varieties in each of the three generally recognized areas of the Sugar District of Louisiana.

C. P. 44/101 now occupies more than 50 percent of the acreage in the State as a whole, over 50 percent of the acreage in both the Southeastern and Southwestern areas, and above 46 percent in the Northern area. It leads all other varieties in all the parishes surveyed except Vermilion, Lafayette, Avoyelles, and Pointe Coupee (data not shown).

Still in second place in the State as a whole (third place in the Southwestern area), is C. P. 36/105 which now occupies 18.76 percent of the acreage. The Southeastern and Northern areas each have over 20 percent of the acreage in this variety but the Southwestern area has only 10 percent of the acreage in C.P. 36/105, according to this survey.

C. P. 44/155 occupies nearly 10 percent of the State acreage and is in third place. Of the three areas,

TABLE 1

Percent distribution of sugarcane acreage according to variety in the 3 principal areas of the Louisiana Sugar District

A. 1956 Crop

Area	VARIETY												Percent of State acreage
	C.P. 44/101	C.P. 36/105	C.P. 44/155	N.Co. 310	C.P. 36/13	C.P. 43/47	C.P. 29/116	C.P. 44/154	Co. 290	C.P. 34/120	C.P. 29/320	Other varieties	
Southeastern[2]	53.69	23.60	6.42	5.64	2.43	4.18	0.21	0.61	0.19	0.80	0.38	1.85	47.38
Southwestern[3]	50.08	10.38	13.39	2.02	5.60	1.93	7.43	2.98	3.12	0.78	0.11	2.18	36.22
Northern[4]	46.61	24.87	13.09	4.75	3.39	2.54	0	0	0	1.89	1.50	1.36	15.36
State	50.74	18.76	9.90	4.13	3.70	3.07	2.79	1.37	1.22	0.95	0.45	1.88	98.96

B. Varietal increase (+) or decrease (—) in percent of surveyed acreage.

Period	C.P. 44/101	N.Co. 310	C.P. 29/116	C.P. 44/154	C.P. 29/320	Co. 290	C.P. 36/13	C.P. 43/47	C.P. 44/155	C.P. 34/120	C.P. 36/105
1955-56	+8.50	+2.66	+0.11	-0.04	-0.27	-0.83	-1.11	-1.44	-1.58	-1.74	-5.11
1951-56	+45.47	+4.13	-5.74	+1.37	-3.85	-8.21	-2.67	+3.07	+5.92	-18.62	-13.73

[1] Anon. Cropland-Proportionate share-Planted acres of Louisiana sugarcane farms participating in the sugar program by parishes. Sug. Bull. 33(22): 315. August 15, 1955.
[2] Ascension, Assumption, Lafourche, St. Charles, St. James, St. John, and Terrebonne.
[3] Iberia, Lafayette, St. Martin, St. Mary, and Vermilion.
[4] Avoyelles, Iberville, Pointe Coupee, West Baton Rouge.

the Southwestern reported the highest percentage of the acreage in this variety (more than in C. P. 36/105) and the Northern area the next highest percent. Only 6.42 percent of the acreage in the Southeastern area is planted in C. P. 44/155.

N. Co. 310, released for commercial culture in 1954, presently occupies 4.13 percent of the State acreage and although it is too early to show any trend in area preference the percentage of the acreage in the Southwestern area is less than one-half that of either of the other two areas.

The acreage devoted to each of the three following varieties, C.P. 36/13, C. P. 43/47, and C. P. 29/116, is approximately 3.00 percent in the State and the total for the three amounts to less than 10 percent. C. P. 36/13 and C. P. 29/116 are more widely grown in the Southwestern area and C. P. 43/47 in the Southeastern area. Lafayette and Vermilion Parishes reported 30 and 45 percent, respectively, in C. P. 29/116 (data not shown) and the Northern area reported no C. P. 29/116.

Occupying less than 1.50 percent of the acreage each are C. P. 44/154, Co. 290, C. P. 34/120, and C. P. 29/320. Co. 290 is in sixth place in the Southwestern area with most of the plantings in Lafayette Parish (data not shown). It is not grown in the Northern area and only to a very limited extent in the Southeastern area. C. P. 34/120 and C. P. 29/320 are still grown on a few acres in the Northern area.

Relative Changes in Varietal Position

Table 1-B gives the changes in percentage of the State acreage for 11 varieties from 1955 to 1956, and from 1951 to 1956, and Figure 1 shows graphically the percentage of the State acreage devoted to 6 important varieties during the period 1941 to 1956, inclusive. Table 1-B reveals important changes in varietal utilization in the last 6 years, and Figure 1 shows the complete changeover in commercial varieties in Louisiana in the past 16 years. C. P. 44/101 gained 45.47 percent in acreage since the 1951 census. With more than 50 percent of the planted acreage, it is the most widely cultivated of the Canal Point varieties ever

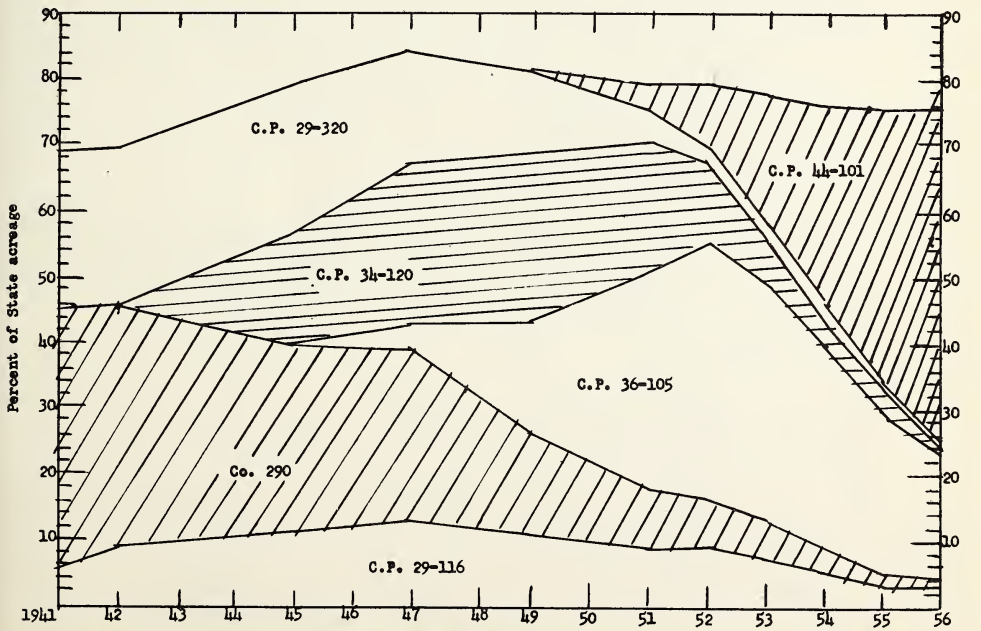


Fig. 1. Percent of Louisiana sugarcane acreage in different varieties from 1941-56, inclusive.

grown in Louisiana. No other single variety has approached that figure since 1941, at which time Co. 290 occupied approximately 40 percent of the area. It is of interest to note that C. P. 44/101 is equally popular in all three areas of the State while the Co. 290 plantings were largely restricted to the Western area where it was grown on approximately 75 percent of the area in 1941 (data not shown).

Results of all variety tests conducted to date on all soil types in the three areas show that the confidence placed in the variety by the industry is fully justified. It remains to be seen how long C. P. 44/101 can maintain its superiority over other varieties in competition with the environment, including insects and diseases, and with promising varieties constantly being developed by the variety improvement program.

Registering the highest percentage decrease in the last six years is C. P. 34/120 which occupied over 20 percent of the acreage during the period 1947 to 1951, inclusive. It decreased 18.62 percent in acreage in the period 1951 to 1956. This variety, like Co. 290, was not generally accepted in the Sugar Belt, being grown principally in the Southeastern and Northern areas only. It was never very popular in the Southwestern area. C. P. 36/105, once widely grown in all three areas, and occupying above 38 percent of the State acreage in 1952, has decreased by 13.73 percent since 1951. With the exception of a few parishes it is not very popular in the Southwestern area. With poorer milling qualities than C. P. 44/101 and lower average yields in all variety trials, it offers few advantages over that variety.

C. P. 29/116 occupies slightly less than three percent of the State acreage which is essentially no change since 1955. As pointed out above, most of the plantings are in a few parishes in the Southwestern area where its good yields of cane per acre have provided a strong argument in its favor. Results of field tests show that it is one of the most stable varieties in yield of cane per acre. Its extremely low yield of sugar per ton of cane and susceptibility to damage by cold are serious disadvantages, and it is believed that C. P. 29/116 will be replaced by some of the commercial varieties which have consistently surpassed it in total yields of sugar per acre in varirety tests.

C. P. 29/320, which was planted on more than 20 percent of the acreage for a number of years after 1941, dropped another 0.27 percent in the past year and presently occupies less than 0.5 percent of the State-planted acreage. Like C. P. 34/120, it was never popular in the Southwestern area.

Both C. P. 44/155 and C. P. 36/13 decreased in acreage during the past year. Much of the acreage formerly devoted to these two varieties is now occupied by C. P. 44/101. It is of interest to note that both varieties occupy a higher percentage of the acreage in the Southwestern than in the other two areas, although according to a "rule of thumb" sometimes used in predicting varietal adaptability the ones low in sucrose or late maturing, if vigorous, will be adapted to the Southwestern or "Teche" area, but both C. P. 44/155 and C. P. 36/13 are relatively high in sucrose and relatively less vigorous. Both varieties have good milling qualities, important considerations from the processing standpoint, and they find favor in certain localities although it is not likely that either one will ever be widely grown.

With only 1.37 percent of the State acreage, C. P. 44/154 registered essentially no change since the 1955 census. Most of the plantings of that variety are in the Southwestern area where it was believed that its growth habit, somewhat resembling Co. 290, and high cane yields would overcome its generally low sucrose qualities. It is doubtful that there will be much increase in acreage of C. P. 44/154 because growers are

finding that, although it produces heavy yields of cane, they have to sacrifice considerable tonnage due to below-par sucrose yields.

N. Co. 310 increased slightly in acreage during the past year but its rate of increase is not rapid. It will probably not become a widely grown variety for several reasons. The variety is susceptible to mosaic disease which will limit its usefulness. Its susceptibility to lodging will prevent many growers from planting it extensively although heavy yields of cane can be expected, and the fact that it is later maturing than C. P. 44/101 will limit its general use on many properties. Its very heavy yields of cane per acre and early spring growth, affording early shading of the row, and, hence, suppression of weeds, are desirable qualities of N. Co. 310 which are points in its favor in setting up a planting program.

[1] The author is indebted to the following agents who supplied the information on varietal plantings in the various parishes: Claude Songy, E. J. Lousteau, K. J. Ducote, W. E. Williams, Edward Burleigh, S. J. Bowles, A. J. Brackin, C. J. Arceneaux, A. B. Curet, A. J. Melancon, Jr., Kermit Coulon, V. O. Calandro, Stanley Angelle, P. J. de Gravelles, Richard Sonnier, Murphy Veillon, and H. A. Webb.

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RESULTS OF SUGARCANE VARIETY TESTS IN LOUISIANA DURING 1955

By R. J. Matherne and Leo P. Hebert, Research Agronomists, Field Crops Research Branch, Agricultural Research Service, United States Department of Agriculture.

The sugarcane variety program in Louisiana is conducted under a cooperative agreement between the United States Department of Agriculture, the Louisiana Agricultural Experiment Station, and the American Sugar Cane League. Meetings are held several times during the year at which representatives of each agency plan the program and discuss the accumulated data on varieties. Unreleased varieties that show promise are increased at the seed increase stations operated by the League, and the best of these may later become candidates for release as commercial varieties. Under the agreement the U. S. Deartment of Agriculture and the Louisiana Agricultural Experiment Station are responsible for the testing of the varieties, while the League undertakes the increase of the seed supply and the distribution of varieties that are eventually released.

In 1955 the outfield work of the two experiment stations was consolidated into a single program under which the test fields will be operated jointly and uniform methods used. While each agency will continue to have primary responsibility for the work of the outfields where it has conducted its work in the past, and will publish a separate report on the results obtained for those individual test fields, the results from all test fields of both stations will be summarized and made available to the industry in a single "Variety Summary Sheet".

This report presents the data obtained in 1955 from the test fields for which the U. S. Department of Agriculture has primary responsibility. Of special interest were the continued good performance of C.P 44/101 and N. Co. 310 on both light and heavy soils, and the early maturing qualities of the recently released variety C.P. 48/103, which is superior in earliness to any variety ever available for commercial culture in Louisiana.

Weather Conditions

Table 1 gives the monthly rainfall at each test field location during 1955. This table shows that rainfall was adequate during the growing season at most of the stations. There were no prolonged drouth periods during the months of June, July, and August and the cane did not suffer for lack of moisture as was the case at a number of locations in the past several years.

The last killing freeze of the season occurred on March 27 when a low of 28° F. was recorded at Houma and the cane was killed back to the ground over most of the sugar belt, but the cold damage was particularly severe in the far western part of the "Sugar Belt". This retarded the development of the crop, which had made considerable growth by late March, and resulted in delayed maturity in spite of the favorable growing season after that date.

Temperatures were favorable during the harvest season and no ex-extremely low temperatures occurred until November 29 when a low of 29° F. was recorded at Houma. By that date a high percentage of the crop had been harvested but losses were reported in some areas, notably the extreme western section.

Experimental Technique

Methods employed by the U. S. Department of Agriculture in conducting sugarcane variety tests at different locations in the Sugar Belt of Louisiana have been described in previous reports (2) (3). A large number of important commercial

and promising unreleased varieties are planted with two or four replications in plots of approximately 1/50-acre at each location. The number of replications for a particular variety depends on its relative importance and the available seed supply.

Two rates of nitrogen fertilization in a split plot design were used in plant cane tests at Raceland, Oaklawn, St. John-Levert, Alma, and Bon Secour, but only the average of the two nitrogen levels for each is shown in this report. Similarly, two rates of nitrogen were used in first stubble tests at Raceland, Oaklawn, and Alma and plot sizes were reduced to 1/60-acre with four replications of each variety. Average variety yields are used for these three tests, disregarding the nitrogen x variety interaction. The differences required for significance at the two commonly accepted levels of statistical significance when four and two replications were used are shown for each test, and the number of replications for each variety indicated by one or two asterisks, respectively.

Actual field weights of hand-stripped or burned cane were taken for each plot by means of a trailer-transported weighing device. When it was impossible to hand-strip or burn (for the reason that the cane was to be used for seed increase) the plots were weighed with the trash, and allowance was made for percent trash with due consideration given to varietal difference in percent trash as determined in previous tests.

Twenty-stalk samples were taken from each plot and transported to Houma for milling and primary or crusher juice analysis of Brix and sucrose. Experimental errors for differences in yields of sugar per ton of cane are based on plot-to-plot variation for the indicated yield.

For conducting studies of maturity five replications of 1/40-acre of each variety to be tested were planted at the Houma station. Each 1/40-acre plot was subdivided into 18 plots at harvest time and three sub-plots were cut and composited on each of the six sample dates given in table 2. A sample of 25 stalks was taken at random from the composited material and milled for Brix and sucrose (pol) analyses of the juice. Thus, there were five samples of each variety on each sample date during the period September 29 to December 14, 1955, inclusive. Each sample consisted of cane taken from three sub-plots distributed at random among each 1/40 acre plot of the variety.

Maturity Studies

Table 2 gives results of maturity studies at the Houma station with

TABLE 1
Monthly rainfall at cooperative variety test stations during 1955

Station	Monthly rainfall during 1955 (inches)											
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Raceland	4.58	5.67	0	4.00	4.24	4.77	8.28	6.94	2.01	1.05	3.21	3.52	48.27
Greenwood	5.75	6.25	0	5.95	5.70	5.95	13.35	6.70	3.60	0.90	3.60	3.30	61.05
Oaklawn	5.25	3.05	0	6.20	6.05	4.70	15.35	11.35	6.60	2.10	3.30	4.25	68.20
*Albania	5.63	8.80	.07	7.31	8.06	4.97	7.34	12.17	1.15	0.87	3.90	3.29	63.56
Levert-St.John	4.65	7.86	0	6.29	10.20	3.58	6.16	4.22	1.53	1.29	3.57	5.37	54.72
Alma	5.90	10.60	0.10	9.10	3.31	2.62	6.75	3.84	4.32	0	4.60	3.40	54.54
Bon Secour	6.18	4.10	0.04	7.31	4.30	6.44	9.42	5.39	3.94	1.76	4.60	3.21	56.69
Clovelly	5.08	5.10	0	4.78	5.42	4.23	5.32	11.40	4.90	3.95	3.73	1.78	55.69
Elm Hall	5.33	4.22	0.05	5.93	5.47	2.01	11.97	7.23	4.30	2.59	3.65	2.85	55.60
Houma	2.28	3.00	0.02	3.14	2.56	4.43	9.50	5.57	4.34	1.14	4.24	3.80	44.02
Normal for Houma	4.02	4.02	3.58	3.95	3.97	5.71	8.15	7.35	6.36	4.55	3.85	5.17	60.68

* Rainfall recorded at nearby Iberia Livestock Farm. Information for Albania not available.

important varieties. C.P. 48/103, released for commercial utilization in 1955, continued to produce high yields of sugar per ton of cane very early in the season compared to yields of the other varieties. On September 29, when the first samples were taken, indicated yields of sugar per ton of cane for this variety were approximately 50 percent above those of C.P 44/101 and C.P. 44/155, and on December 14, when the last samples were analyzed, yields of C.P. 48/103 were still more than 20 percent above those of C.P. 44/101 and C.P. 44/155. Results obtained with this early-maturing variety in 1955 are in agreement with those of previous tests (3). On the other hand, N. Co. 310, in agreement with earlier results (3), continued to give evidence of being relatively late maturing. Indicated yields of sugar per ton of cane for this variety were low throughout the harvest season. Starting at 90 percent of C.P. 44/101, it reached 101 and 96 percent on December 1 and December 14, respectively. C.P. 50/11 is relatively early maturing but cane yields have been disappointingly low and the variety is no longer considered a commercial prospect. C.P. 36/105 was relatively early maturing as shown by average relative sugar yields of 10 and 12 percent above C.P. 44/101 on September 29 and October 14, respectively. It is of interest to note that during the 75-day period of the experiment, indicated yields of 96° sugar per ton of cane for C.P. 44/101 increased approximately 105 pounds, or an average of 1.4 pounds of sugar per day.

Results of Tests on Light Soils

Tables 3, 4, and 5 give the results of yield tests during 1955 at the six light soil locations in plant cane, first stubble, and second stubble, respectively, and table 6 summarizes cane and sugar yields of six important varieties which occurred in all three crops. The two recently released varieties C.P. 47/193 and C.P. 48/103 are included in table 6.

Table 6 shows that both N. Co. 310 and C.P. 48/103 surpassed C.P. 44/101 by 4 and 3 percent, respectively, in yields of sugar per acre, and that C.P. 47/193 produced yields of sugar per acre approximately equal to yields of C.P. 44/101. C.P. 44/155 averaged 5 percent less sugar per acre than C.P. 44/101 and C.P. 36/105 was 14 percent under C.P. 44/101 in that respect.

In yields of sugar per ton of cane C.P. 48/103 was above all others. N. Co. 310 was slightly under C.P. 44/101, and both C.P. 36/105 and C.P. 47/193 surpassed C.P. 44/101 by small margins in the average of all tests. C.P. 44/155 outyielded C.P. 44/101 by approximately 15 pounds of sugar per ton of cane in all tests (Table 6).

C.P. 36/13, C.P. 44/155, C.P. 43/47, and C.P. 47/49 were consistently above, and C.P. 29/116, C.P. 44/154, C.P. 48/117, C.P. 48/154, C.P. 50/8,

TABLE 2

Results of maturity studies with six varieties in plant cane tests at Houma during the period September 29 to December 14, 1955, inclusive

Date of Sampling	Indicated yield of 96° sugar per ton of cane for C. P. 44/101		Relative indicated yield of 96° sugar per ton of cane (C.P. 44/101 = 100)						
			VARIETY						
	Pounds	Percent of Mean	C. P. 36/105	C. P. 44/155	C. P. 48/103	C. P. 50/11	N. Co. 310	All varieties
September 29	108.9	91	110	100	151	108	90	69
October 14	129.3	89	112	108	151	112	93	83
November 1	169.6	98	94	103	125	96	91	99
November 15	189.7	100	85	104	126	96	92	109
December 1	206.9	100	86	104	126	85	101	119
December 14	213.8	101	85	101	123	89	96	121

TABLE 3

Results of plant cane variety tests on light soils in Louisiana during 1955

Variety	Godchaux (Raceland)1/ 12-22 2/	Oaklawn (Franklin)2/ 11-23	Albania (Jeanerette)3/ 11-28	Levert-St.John (St.Martinville)4/ 11-29	Alma (Lakeland)5/ 11-16	Bon Secour (St. James)1/ 11-15	Average
Average yield of cane per acre (tons)							
** C. P. 51/24	37.16	37.47	37.59	28.95	36.73	29.23	34.52
** C. P. 50/40	36.48	35.43	32.25	26.40	36.34	30.49	32.90
** C. P. 51/21	30.85	28.56	28.18	21.13	31.59	25.07	27.56
* N. Co. 310	34.88	34.42	34.28	25.46	36.59	30.48	32.68
** C. P. 36/13		35.66	37.12		34.30	25.42	32.42 8/
** C. P. 47/49	33.40	38.70	28.77	25.73	33.13	28.99	31.45
** C. P. 51/27	35.19	34.13	33.95	26.44	28.72	29.78	31.37
* C. P. 44/101	33.12	34.45	33.35	28.47	34.75	27.34	31.91
* C. P. 48/103	29.79	24.75	31.01	20.16	27.01	22.33	25.84
* C. P. 44/155	32.57	32.57	32.07	24.58	28.24	24.63	29.11
** C. P. 51/13	35.23	30.86	34.55	23.17	27.92	23.21	29.16
* C. P. 36/105	33.92	32.01	29.99	23.24	32.76	28.56	30.08
* C. P. 47/193	30.30	33.40	25.55	23.42	32.79	26.31	28.63
* C. P. 50/11	32.11	35.12	31.30	25.58	36.40	30.91	31.90
** C. P. 43/47	26.50	24.75	28.65	21.61	31.47	24.02	26.17
** C. P. 48/117	35.89	32.65	34.90	25.99	40.98	23.90	32.38
** C. P. 50/41	40.28	35.60	36.43	36.78	38.19	38.86	37.69
* C. P. 29/116	32.96	31.34	37.12	28.54	41.66	31.36	33.83
** C. P. 44/154	33.27	37.72	28.67	27.57	34.59	29.45	31.88
Difference 10/							
For P. = .05	3.99	5.33	2.89	4.63	5.52	3.38	2.92 9/
For P. = .01	5.45	7.29	3.95	6.32	7.55	4.61	3.87
Difference 11/							
For P. = .05	5.08	5.53	3.94	4.88	7.47	5.47	
For P. = .01	7.51	7.80	5.61	6.89	10.55	7.72	
Average indicated yield of 96° sugar per ton of cane (pounds) 7/							
**C. P. 51/24	189.8	202.7	214.4	155.0	168.7	174.2	185.8
**C. P. 50/40	189.6	196.6	213.3	155.1	131.6	191.4	179.7
**C. P. 51/21	214.9	189.0	247.9	194.9	204.1	225.9	213.1
*N. Co. 310	185.3	185.4	198.5	174.4	135.6	191.1	177.8
**C. P. 36/13		173.9	205.4		142.4	198.2	177.1 8/
**C. P. 47/49	182.2	183.0	209.4	163.2	177.5	178.1	182.5
**C. P. 51/27	187.8	190.5	188.8	160.9	171.2	170.3	179.4
*C. P. 44/101	186.7	192.5	204.2	150.5	140.7	184.9	176.3
*C. P. 48/103	220.8	226.7	230.8	199.7	210.4	210.4	217.7
*C. P. 44/155	217.6	194.4	198.3	170.9	156.7	205.3	191.6
**C. P. 51/13	191.3	193.9	203.7	164.6	157.4	193.4	185.5
*C. P. 36/105	180.3	187.3	205.4	153.4	151.8	182.1	179.2
*C.P. 47/193	185.5	196.8	207.4	162.0	170.2	184.4	184.7
*C. P. 50/11	161.2	172.6	183.4	163.6	139.6	163.5	163.5
**C. P. 43/47	201.0	193.7	225.7	177.2	182.7	203.2	197.7
**C. P. 48/117	168.1	158.9	188.5	138.4	124.9	158.6	156.0
**C. P. 50/41	122.8	144.7	185.9	98.4	96.3	92.3	122.6
*C. P. 29/116	137.3	141.6	143.5	117.3	101.3	132.7	128.2
**C. P. 44/154	130.0	145.4	158.6	125.7	104.2	136.5	133.0
Difference 10/							
For P. = .05	20.82	11.66	17.76	20.27	17.46	12.61	16.08 9/
For P. = .01	28.46	15.94	24.22	27.64	23.87	17.20	21.30
Difference 11/							
For P. = .05	34.38	21.49	26.48	24.23	21.14	20.93	
For P. = .01	50.86	30.32	37.37	34.46	29.83	29.54	
Average indicated yield of 96° sugar per acre (pounds)							
** C. P. 51/24	7053	7595	8060	4486	6195	5092	6413
** C. P. 50/40	6916	6967	6878	4094	4782	5837	5912
** C. P. 51/21	6630	5398	6986	4119	6449	5664	5874
* N. Co. 310	6462	6383	6803	4443	4960	5826	5812
** C. P. 36/13		6202	7623		4886	5037	5740 8/
** C. P. 47/49	6084	7082	6025	4200	5879	5164	5739
** C. P. 51/27	6609	6502	6411	4253	4916	5071	5627
* C. P. 44/101	6170	6507	6826	4241	5065	4946	5626
* C. P. 48/103	6578	5610	7157	4026	5684	4699	5626
* C. P. 44/155	7056	6333	6359	4200	4426	5056	5577
** C. P. 51/13	6738	5983	7039	3814	4394	4488	5409
* C. P. 36/105	6116	5997	6159	3564	5299	5201	5389
* C. P. 47/193	5622	6574	5298	3794	5580	4852	5287
* C. P. 50/11	5175	6061	5740	4185	5080	5055	5216
** C. P. 43/47	5327	4794	6467	3830	5751	4880	5175
** C. P. 48/117	6032	5189	6578	3597	5120	3791	5051
** C. P. 50/41	4946	5153	6738	3620	3676	3587	4620
* C. P. 29/116	4526	4437	5325	3347	4219	4761	4336
** C. P. 44/154	4326	5483	4547	3466	3601	4020	4240
Difference 10/							
For P. = .05	998	1067	1074	688	1030	707	715 9/
For P. = .01	1365	1459	1464	938	1408	964	947
Difference 11/							
For P. = .05	1486	1235	1316	885	1338	1124	
For P. = .01	2199	1743	1856	1258	1888	1587	

(Continued on next page)

FOOTNOTES—TABLE 3

* Averages shown are based on 4 yield determinations at each station.

** Averages shown are based on 2 yield determinations at each station.

[1] Mhoon silty clay loam.

[2] Baldwin silty clay loam.

[3] Baldwin silty loam.

[4] Baldwin very fine sandy loam.

[5] Commerce very fine sandy loam.

[6] Date of harvest.

[7] Weighted average values given for this and subsequent tables.

[8] Average based on an assumed value for missing yield calculated according to Yates formula for determining missing plot values. (Paterson, D. D. Statistical Technique in Agricultural Research, pp. 181-188).

[9] Experimental Error based on Location x Variety interaction term.

[10] When mean is based on 4 yield determinations.

[11] When mean is based on 2 yield determinations.

TABLE 4

Results of first stubble variety tests on light soils in Louisiana during 1955

Variety	Godchaux (Raceland)1/ 11-9 6/	Oaklawn (Franklin)2/ 10-26	Albania (Jeanerette)3/ 11-1	Levert-St.John (St.Martinville)4/ 11-3	Alma (Lakeland)5/ 11-16	Bon Secour (St. James)1/ 11-14	Average
		Average yield of cane per acre (tons)					
** C. P. 50/28	26.69	13.56	22.53	21.45	25.49	27.31	22.84
** C. P. 47/49	34.75	19.99	23.80	17.33	23.22	34.32	25.57
* C. P. 48/103	26.48	19.78	23.83	8.75	22.06	31.14	22.61
* N. Co. 310	30.59	18.81	24.92	24.30	30.48	33.25	27.06
** C. P. 50/13	29.97	20.97	28.18	26.14	32.66	34.11	28.67
* C. P. 44/101	26.50	17.81	27.31	22.58	25.13	32.92	25.37
* C. P. 47/193	29.32	17.25	26.28	18.56	27.79	28.74	24.66
** C. P. 44/154	31.74	24.50	26.07	26.87	35.00	37.48	30.28
** C. P. 50/8	34.84	22.23	23.47	26.79	34.98	34.09	29.40
** C. P. 48/117	32.97	28.92	21.46	20.80	30.24	33.92	28.05
** C. P. 44/155	25.12	17.09	24.14	17.87	23.96	22.64	21.80
* C. P. 50/11	21.95	19.84	25.07	21.13	31.17	30.82	25.00
** C. P. 43/47	25.75	13.74	19.87	10.11	27.82	25.26	20.42
** C. P. 36/13	22.56	18.21	23.64	9.55	21.51	25.92	20.23
* C. P. 36/105	20.96	16.25	22.88	19.34	17.66	30.03	21.19
** C. P. 29/116	30.87	15.73	25.60	18.75	34.97	32.97	26.48
** C. P. 48/110	18.62	20.72	20.92	15.12	24.52	29.17	21.51
** C. P. 50/15	29.64	17.47	19.69	17.00	26.13	25.45	22.56
** C. P. 48/154	34.89	18.66	22.43	20.23	31.54	33.29	26.84
** C. P. 50/23	33.17	15.38	24.37	11.37	19.20	23.06	21.09
Difference 8/							
For P. = .05	6.09	8.30	2.38	4.86	8.21	3.10	3.87 7/
For P. = .01	8.11	11.04	3.24	6.74	10.92	4.28	5.13
Difference 9/							
For P. = .05			3.49	6.34		3.43	
For P. = .01	10/	10/	4.77	8.68	10/	4.69	

Variety	Average indicated yield of 96° sugar per ton of cane (pounds)						
** C. P. 50/28	201.0	215.3	225.7	207.2	178.0	226.3	208.2
** C. P. 47/49	173.6	200.5	196.3	167.8	182.3	192.0	185.4
* C. P. 48/103	213.0	220.6	217.4	205.5	204.1	218.6	214.2
* N. Co. 310	159.9	189.1	177.0	163.5	142.0	163.0	163.7
** C. P. 50/13	146.3	163.4	157.5	153.5	135.8	170.7	154.2
* C. P. 44/101	166.4	183.8	180.8	152.6	161.1	189.0	173.0
* C. P. 47/193	173.9	187.7	186.3	165.4	172.6	180.8	177.7
** C. P. 44/154	132.1	154.1	157.2	137.4	122.0	141.6	139.5
** C. P. 50/8	139.1	148.0	160.7	134.3	126.3	145.0	141.0
** C. P. 48/117	138.7	153.8	165.7	142.8	138.1	147.6	147.0
** C. P. 44/155	183.8	189.3	188.2	179.2	168.0	215.5	187.3
* C. P. 50/11	163.2	172.6	170.6	143.4	144.9	173.9	161.3
** C. P. 43/47	184.1	193.8	196.4	180.9	175.3	203.3	188.9
** C. P. 36/13	176.0	193.7	196.8	166.9	175.2	206.3	188.3
* C. P. 36/105	170.2	197.7	187.2	167.0	169.3	185.0	179.6
** C. P. 29/116	130.4	164.5	160.0	138.3	117.1	132.6	137.0
** C. P. 48/110	177.8	184.4	171.0	134.3	167.0	169.1	168.7
** C. P. 50/15	137.8	170.1	184.1	156.1	153.4	167.3	159.6
** C. P. 48/154	129.8	152.6	125.9	160.6	102.2	130.0	130.4
** C. P. 50/23	155.3	157.8	184.9	167.5	162.0	169.1	165.9
Difference 8/							
For P. = .05	5.48	18.00	16.88	14.15	22.93	15.66	10.95 7/
For P. = .01	7.29	23.94	23.03	19.64	30.51	21.65	14.50
Difference 9/							
For P. = .05			20.30	27.95		24.99	
For P. = .01	10/	10/	27.80	38.29	10/	34.16	

(Continued on next page)

TABLE 4—Continued
Results of first stubble variety tests on light soils in Louisiana during 1955.

Variety	Godchaux (Raceland)[1]	Oaklawn (Franklin) [2]	Albania (Jeanerette)[3]	Levert-St.John (St.Martinville)[4]	Alma (Lakeland)[5]	Bon Secour (St. James)[1]	Average
	11-9 [6]	10-26	11-1	11-3	11-16	11-14	
	Average indicated yield of 96° sugar per acre (pounds)						
** C. P. 50/28	5366	2919	5084	4444	4538	6179	4755
** C. P. 47/49	6032	4008	4671	2908	4234	6588	4740
* C. P. 48/103 ...	5639	4363	5180	1798	4503	6806	4715
* N. Co. 310	4890	3557	4411	3972	4329	5419	4430
** C. P. 50/13	4384	3426	4438	4013	4436	5823	4420
* C. P. 44/101 ...	4410	3273	4939	3446	4048	6223	4390
* C. P. 47/193 ...	5098	3238	4897	3069	4797	5195	4382
** C. P. 44/154 ...	4194	3775	4098	3691	4270	5309	4223
** C. P. 50/8	4845	3291	3772	3597	4418	4942	4444
** C. P. 48/117 ...	4572	4449	3556	2970	4176	5007	4222
** C. P. 44/155 ...	4616	3236	4542	3202	4026	4878	4083
* C. P. 50/11	3583	3424	4278	3030	4518	5359	4032
** C. P. 43/47	4740	2663	3902	1829	4876	5135	3857
** C. P. 36/13	3971	3527	4652	1594	3768	5347	3810
* C. P. 36/105 ...	3568	3212	4282	3229	2989	5555	3806
** C. P. 29/116 ...	4025	2587	4095	2593	4095	4371	3628
** C. P. 48/110 ...	3311	3820	3577	2030	4096	4932	3628
** C. P. 50/15	4084	2972	3624	2653	4009	4258	3600
** C. P. 48/154 ...	4530	2848	2823	3248	3222	4327	3500
** C. P. 50/23	5150	2427	4505	1905	3110	3900	3499
Difference [8]							
For P. = .05	1004	1541	616	852	1440	753	712 [7]
For P. = .01	1335	2050	840	1183	1916	1041	943
Difference [9]							
For P. = .05			795	1150		974	
For P. = .01	[10]	[10]	1089	1575	[10]	1331	

* Averages shown are based on 4 yield determinations.
** Averages shown are based on 2 yield determinations except three locations (Godchaux, Oaklawn, Alma) in which averages are all based on 4 determinations.
[1] Mhoon silty clay loam.
[2] Baldwin silty clay loam.
[3] Baldwin silty loam.
[4] Baldwin very fine sandy loam.
[5] Commerce very fine sandy loam.
[6] Date of harvest.
[7] Experimental Error based on Variety x Location interaction term.
[8] Difference required for significance when mean is based on 4 yield determinations.
[9] Difference required for significance when mean is based on 2 yield determinations.
[10] All variety means based on 4 yield determinations (see Experimental Technique).

and C.P. 50/13 consistently below C.P. 44/101 in yields of sugar per ton of cane. In plant cane tests the following unreleased varieties surpassed C.P. 44/101 in yields of sugar per acre: C.P. 47/49, C.P. 50/40, C.P. 51/21, C.P. 51/24, and C.P. 51/27. Both C.P. 47/49 and C.P. 51/24 are so susceptible to lodging that they will not be replanted. C.P. 51/21 and C.P. 51/27 have given evidence of poor stubbling qualities in preliminary agronomic tests, and both varieties will be discarded. C.P. 51/21 has the additional disadvantage of having relatively poor milling qualities. More testing of C.P. 50/40 will be necessary before final appraisal of its merits can be made. C.P. 50/13 and 50/28, occurring in first stubble tests only, yielded more sugar per acre than C.P. 44/101. C.P. 50/13 was not replanted in 1955 because it is very low in sucrose and C.P. 50/28 was discontinued because it is susceptible to mosaic.

Results of Tests on Heavy Soils

Results of four plant cane and two stubble tests on heavy soils are presented in Tables 7 and 8, respectively, and Table 9 summarizes these results with some of the important varieties. N. Co. 310 outyielded all other varieties in each individual plant cane test and surpassed C.P. 44/101 by 16 percent in the average of all tests in yields of sugar per acre, but C.P. 44/101 was slightly above N. Co. 310 in the first stubble test at Elm Hall. No other released variety equaled C.P. 44/101 in yields of sugar per acre in the average of all tests, but C.P. 44/154 surpassed C.P. 44/101 by a slight margin in second stubble (table 8). C..P. 44/154 was silghtly above C.P. 44/101 in yields of sugar per acre in plant cane at Elm Hall and C.P. 36/105 was also above C.P. 44/101 in the plant cane test at Oaklawn.

Average yields of sugar per ton of cane in plant cane tests were essentially equal for C.P. 44/101, C.P. 47/49, C.P. 47/193, and N. Co. 310, but yields of C.P. 36/105, C.P. 48/117, C.P. 44/154, and C.P. 29/116 were considerably below those of C.P. 44/101. C.P. 36/105, C.P. 47/

TABLE 5

Results of second stubble variety tests on light soils in Louisiana during 1955

Variety	Godchaux (Raceland) 1/	Oaklawn (Franklin) 2/	Levert-St. John (St. Martinville) 3/	Bon Secour (St. James) 1/	Average
	11-8 4/	10-27	11-3	10-2	
	Average yield of cane per acre (tons)				
*N. Co. 310	34.00	32.32	25.50	29.21	30.26
*C.P. 47/193	30.38	26.75	22.98	26.64	26.69
*C.P. 48/103	25.77	22.78	13.32	26.71	22.14
**C.P. 47/49	30.49	23.96	17.64	29.61	25.42
*C.P. 44/101	28.25	25.27	27.27	27.40	27.05
**C.P. 44/154	32.56	29.26	30.70	31.06	30.89
**C.P. 48/117	30.75	30.90	26.85	27.85	29.09
**C.P. 49/27	25.37	28.17	24.91	28.30	26.69
**C.P. 44/155	21.69	32.33	17.75	19.17	22.73
**C.P. 43/47	21.43	29.76	17.31	22.71	22.80
**C.P. 36/13	22.00	24.19		25.19	22.47 5/
**C.P. 49/35	29.03	27.00	21.70	22.15	24.97
**C.P. 48/126	27.82	29.56	19.83	19.10	24.08
*C.P. 48/110	19.06	26.30	21.01	22.03	22.10
**C.P. 49/38	31.46	25.40	19.19	26.06	25.53
*C.P. 36/105	22.73	18.36	13.89	23.10	19.52
**C.P. 29/116	25.41	24.73	22.70	23.69	24.13
**C.P. 48/124	27.89	19.44	14.20	15.69	19.30
**C.P. 49/19	25.80	21.30	17.54	24.47	22.28
Difference 7/					
For P. = .05	4.64	3.17	4.25	2.17	4.59 6/
For P. = .01	6.33	4.32	5.79	2.96	6.12
Difference 8/					
For P. = .05	5.69	6.25	7.36	4.36	
For P. = .01	7.78	8.55	10.08	5.96	
	Average indicated yield of 96° sugar per ton of cane (pounds)				
*N. Co. 310	174.2	156.0	178.7	153.5	165.3
*C.P. 47/193	195.0	176.0	193.3	162.9	181.8
*C.P. 48/103	232.2	209.1	207.1	195.9	211.6
**C.P. 47/49	189.7	195.0	181.4	168.1	183.2
*C.P. 44/101	177.2	170.4	164.1	167.1	169.7
**C.P. 44/154	147.4	154.0	161.0	124.8	146.7
**C.P. 48/117	152.2	157.9	155.1	136.4	150.6
**C.P. 49/27	174.2	153.5	173.8	155.5	163.7
**C.P. 44/155	188.6	192.8	192.5	161.9	185.2
**C.P. 43/47	196.6	175.3	189.3	177.5	183.6
**C.P. 36/13	192.4	173.9		181.0	184.8 5/
**C.P. 49/35	152.6	165.8	174.5	140.8	158.3
**C.P. 48/126	153.8	140.2	164.6	149.8	151.0
*C.P. 48/110	181.6	149.7	170.2	146.2	160.5
**CGP. 49/38	140.0	130.9	151.1	119.0	134.5
*C.P. 36/105	185.6	180.9	171.4	164.4	175.7
**C.P. 29/116	151.2	148.2	131.1	114.3	136.6
**C.P. 48/124	169.9	168.7	159.4	158.4	165.3
**C.P. 49/19	144.0	133.1	149.4	137.1	140.5
Difference 7/					
For P. = .05	7.41	13.60	29.75	16.97	11.62 6/
For P. = .01	10.11	18.56	40.66	23.14	15.48
Difference 8/ For P. = .05	14.26	21.88	30.54	17.88	
For P. = .01	19.49	29.91	41.83	24.44	

(Continued on next page)

TABLE 5--Continued

Results of second stubble variety tests on light soils in Louisiana during 1955.

Variety	Godchaux (Raceland) 1/	Oaklawn (Franklin) 2/	Levert-St. John (St. Martinville) 3/	Bon Secour (St. James) 1/	Average
	11-8 4/	10-27	11-3	10-2	
	Average indicated yield of 96° sugar per acre (pounds)				
*No. Co. 310	5922	5042	4556	4483	5001
*C.P. 47/193	5923	4708	4441	4340	4853
*C.P. 48/103	5983	4763	2758	5232	4684
**C.P. 47/49	5783	4672	3200	4976	4658
*C.P. 44/101	5005	4305	4474	4578	4590
**C.P. 44/154	4798	4506	4944	3877	4531
*C.P. 48/117	4679	4879	4165	3799	4380
**C.P. 49/27	4419	4325	4330	4402	4369
**C.P. 44/155	4090	6232	3416	3104	4210
**C.P 43/47	4214	5218	3277	4031	4185
**C.P. 36/13	4233	4206		4560	4152 5/
**C.P. 49/35	4429	4476	3786	3119	3952
**C.P. 48/126	4278	4144	3264	2861	3637
*C.P. 48/110	3461	3936	3575	3220	3548
**C.P. 49/38	4405	3325	2900	3102	3433
*C.P. 36/105	4218	3322	2381	3798	3430
**C.P. 29/116	3842	3665	2976	2707	3297
**C.P. 48/124	4738	3279	2263	2486	3191
**C.P. 49/19	3716	2835	2620	3354	3131
Difference 7/					
For P. = .05	909	649	987	567	814 6/
For P. = .01	1240	886	1349	773	1084
Difference 8/					
For P. = .05	1065	1164	1409	803	
For P. = .01	1456	1591	1931	1098	

* Averages shown are based on 4 yield determinations at each station.
** Averages shown are based on 2 yield determinations at each station.
[1] Mhoon silty clay loam.
[2] Baldwin silty clay loam.
[3] Baldwin very fine sandy loam.
[4] Date of harvest.
[5] Average based on an assumed value for missing yield calculated according to Yates formula for determining missing plot values (Paterson, D. D., Statistical Technique in Agricultural Research pp. 181-188).
[6] Experimental Error based on Location x Variety interaction term.
[7] When mean is based on 4 yield determinations.
[8] When mean is based on 2 yield determinations.

TABLE 6

Summary of results of plant cane, first and second stubble tests with six important varieties on light soils in Louisiana during 1955. Average of all locations.

Variety	Average yield of cane per acre	Average indicated yield of 96° sugar: Per ton of cane	Per acre	Percent of C.P. 44/101
	tons	pounds	pounds	
C. P. 36/105 ...	23.60	178.3	4208	86
C. P. 44/101 ..	28.11	173.2	4869	100
C. P. 44/155 ..	24.55	188.2	4623	95
C. P. 47/193 ..	26.66	181.6	4841	99
C. P. 48/103 ..	23.33	214.7	5008	103
N. Co. 310	30.00	169.4	5081	104

49, C.P. 48/117, C.P. 50/11, and N. Co. 310 were all above C.P. 44/101 in sugar-per-ton yields in the first stubble test at Elm Hall.

Discussion of Results

In order to satisfy the varied demands of the Louisiana sugar industry, varieties must meet certain minimum requirements. Among these requirements are adaptability to machine harvest, or erectness of stalks, early maturity and relatively high percent sucrose in the juice, resistance to diseases and insects, good milling qualities including relatively low fiber content, and relatively large diameter of stalks. These qualities must be combined to a satisfactory degree in varieties that will produce high yields of cane and sug-

TABLE 7

Results of plant cane variety tests on heavy soil in Louisiana during 1955

Variety	Greenwood (Thibodaux) 1/ 12-5 4/	Elm Hall (Napoleonville) 1/ 12-6	Oaklawn (Franklin) 2/ 11-24	Station (Houma) 3/ 12-9	Average
Average yield of cane per acre (tons)					
N. Co. 310	38.06	24.96	26.28	36.88	31.54
C. P. 47/49	34.93	22.13	22.36	30.30	27.43
C. P. 48/117	36.54	23.49	26.77	30.28	29.27
C. P. 44/101	31.48	21.18	22.23	29.74	26.16
C. P. 47/193	30.04	22.00	19.66	24.91	24.15
C. P. 36/105	30.01	19.39	22.50	24.77	24.17
C. P. 44/154	36.53	22.90	23.37	27.84	27.66
C. P. 50/11	26.47	20.01	21.81	22.77	22.76
C. P. 29/116	28.28	20.26	20.71	24.78	23.51
Difference					
For P. = .05	5.25	4.09	3.48	2.54	2.68 5/
For P. = .01	7.14	5.55	4.73	3.44	3.64
Average indicated yield of 96° sugar per ton of cane (pounds)					
N. Co. 310	164.3	196.3	206.2	188.9	186.6
C.P. 47/49	165.1	211.3	211.7	183.7	189.0
C.P. 48/117	155.2	186.8	173.4	174.8	170.8
C.P. 44/101	175.1	188.1	191.9	203.9	189.5
C.P. 47/193	168.7	209.8	203.8	202.2	193.8
C.P. 36/105	166.4	194.3	191.2	187.2	183.1
C.P. 44/154	138.2	181.1	174.0	147.1	156.9
C.P. 50/11	161.1	180.7	192.8	202.2	183.3
C.P. 29/116	122.7	151.8	155.9	151.2	143.8
Difference					
For P. = .05	13.45	10.83	8.80	11.81	12.68 5/
For P. = .01	18.28	14.67	11.96	16.00	17.18
Average indicated yield of 96° sugar per acre (pounds)					
N. Co. 310	6254	4900	5420	6967	5885
C.P. 47/49	5766	4676	4734	5566	5185
C.P. 48/117	5671	4388	4643	5293	4999
C.P. 44/101	5513	3983	4266	6065	4957
C.P. 47/193	5069	4615	4006	5036	4681
C.P. 36/105	4993	3767	4303	4637	4425
C.P. 44/154	5049	4148	4067	4095	4340
C.P. 50/11	4263	3616	4206	4603	4172
C.P. 29/116	3471	3076	3228	3746	3380
Difference					
For P. = .05	936	810	687	569	585 5/
For P. = .01	1273	1098	932	771	793

[1] Sharkey clay.
[2] Alligator clay, brown phase.
[3] Sharkey silty clay loam.
[4] Date of harvest.
[5] Experimental Error based on Variety x Location interaction term.

TABLE 8

Results of stubble variety tests on heavy soils in Louisiana during 1955

Variety	FIRST STUBBLE: Elm Hall (Napoleonville)[1] 11-7 [3]			SECOND STUBBLE: Station (Houma)[2] 10-24		
	Av. yield of cane per acre	Average indicated yield of 96° sugar: Per ton of cane	Per acre	Av. yield of cane per acre	Average indicated yield of 96° sugar: Per ton of cane	Per acre
C. P. 44/101	25.72	168.7	4339	21.49	140.3	3014
N. Co. 310	23.43	174.0	4077	-	-	-
C. P. 50/11	22.89	176.3	4035	-	-	-
C. P. 44/154	24.36	164.3	4002	26.08	117.6	3066
C. P. 48/117	22.17	170.3	3776	-	-	-
C. P. 36/105	19.13	176.6	3378	17.18	150.6	2588
C. P. 47/49	17.66	189.6	3349	-	-	-
C. P. 48/154	23.36	142.1	3319	-	-	-
C. P. 29/116	21.64	153.0	3312	19.07	120.4	2296
C. P. 48/110	-	-	-	20.23	137.9	2790
Difference For P. = .05	5.02	8.98	869	2.21	9.85	359
For P. = .01	6.80	12.17	1177	3.05	13.57	494

[1] Sharkey clay.
[2] Sharkey silty clay loam.
[3] Date of harvest.

ar per acre through plant cane, first and second stubble crops. Evaluation of variety tests results will be made with these standards in mind. Furthermore, of two varieties being tested, one may be statistically superior to the other at one location or in the average of all tests in one year and the opposite may be true the following year. This variety x station and variety x year interaction has been recognized and taken into consideration in recommending varieties for commercial utilization.

The best general purpose variety is still C.P. 44/101 in spite of the fact that certain others surpassed it in some specific tests, or in the average of all tests. The confidence that has been placed in this all-purpose variety by the sugar industry is reflected in the 42 percent of the Louisiana sugarcane acreage devoted to it in 1955. Its ability to produce high yields of cane and sugar in plant cane and stubble on all soil types has been demonstrated for several years. Early spring growth affording relatively good shading of the row, erect growth habit, and better than average milling qualities, are other points in favor of C.P. 44/101. Its susceptibility to borer damage is a serious disadvantage of the variety, especially in some seasons, but results of all tests indicate that it has performed relatively well even under conditions of heavy borer infestation.

C.P. 48/103 was released for commercial culture in 1955 primarily because of its exceptionally early-maturing qualities. Results of maturity tests during 1954 (3) and 1955 (table 2) show that it is far superior to any variety in present use in this respect and that it can be depended upon to give relatively high yields of sugar per ton of cane very early in the harvest season. Other good qualities of this variety are average cane per acre yields equal to, or better than C.P. 36/105, erect growth habit, and very good milling qualities. Its relatively poor shading quality is a disadvantage of the variety, but it should find a place on the better soils for early harvest. It should be pointed out, however, that in results of all tests to date C.P. 48/103 has not given satisfactory yields of cane at the St. John-Levert test field in St. Martin Parish.

TABLE 9

Summary of results of plant cane, first and second stubble tests with four important varieties on heavy soils in Louisiana during 1955. Average of all locations.

Variety	Average yield of cane per acre	Average indicated yield of 96° sugar		
		Per ton of cane	Per acre	Percent of C.P. 44/101
	tons	pounds	pounds	
C. P. 36/105	22.16	177.9	3943	87
C. P. 44/101	26.41	171.5	4529	100
C. P. 47/193[1]	24.15	193.8	4681	94[1]
N. Co. 310	29.93	175.8	5261	116

[1] Plant cane only.

C.P. 47/193, also released in 1955, has demonstrated essentially no advantage over C.P. 44/101 in all tests to date. It yielded 99 percent and 94 percent of C.P. 44/101 in all light soil tests and in plant cane on heavy soils, respectively. In some tests in 1955 yields of sugar per ton have been slightly above comparable yields of C.P. 44/101 but its poorer milling qualities and relatively small stalk diameter are disadvantages of the variety.

C.P. 36/13 and C.P. 44/155 are two relatively early-maturing varieties adapted to the better drained light soils only. The latter variety is subject to severe lodging and it is doubtful that the 10 percent of the acreage devoted to the variety in 1955 (1) will be increased much in the future.

N. Co. 310 is relatively late maturing (table 2) and lodges severely when yields of cane per acre are heavy as has been the case on light soils during the past few years. Very high yields of cane per acre, early spring growth giving effective row coverage early in the season, and resistance to cold injury of the foliage, are good points in favor of the variety. Its adaptability to heavy soils where all varieties tend to mature earlier, could overcome to some extent the disadvantage of late maturity. It is susceptible to mosaic and attention must be given to the control of this disease if the variety is to be grown on any important scale.

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THE EFFECT OF STUNTING DISEASE OF SUGARCANE ON YIELDS OF CANE AND SUGAR IN LOUISIANA, AND THE USE OF HEAT TREATMENT FOR CONTROL

By C. A. Schexnayder, Plant Pathologist, Field Crops Research Branch, Agricultural Research Service, U. S. Department of Agriculture.

Since its identification in Louisiana in 1952[1] the stunting disease of sugarcane, known as ratoon stunting disease in other countries, has been the object of extensive research at the U. S. Sugarcane Field Station, Houma, Louisiana, and the L. S. U. Agricultural Experiment Station, Baton Rouge, Louisiana, in cooperation with the American Sugar Cane League. In general, the results of that work indicate that this disease has played, and is still playing, a very important part in varietal deterioration or "running out" of varieties. This does not mean that the other diseases of sugarcane in Louisiana are of any less importance now than they have been, but rather that we are now aware of another disease that has been with us for a long time, which, in combination with the other diseases, gives us a more complete picture of the causes of "running out" of varieties.

Unlike other sugarcane disease organisms, which usually make themselves obvious by producing relatively distinct symptoms after infection takes place, the stunting disease virus causes losses in yield of cane year after year without making its presence otherwise apparent. This disease in our commercial varieties is not a sudden or devastating one as far as reduction in yields is concerned, but rather its effect is quite gradual, causing decreases in yield over a period of years until the disease organism and the sugarcane plant reach an equilibrium. It rarely results in death of the infected plant. The most important point is that the disease causes important losses without most sugarcane growers being aware that there is a specific cause for those losses.

The disease is accentuated, or intensified, by any detrimental influence in the sugarcane environment. Thus, stunting-disease-infected sugarcane is more severely damaged by drought[7] or excessive soil moisture[4] than cane growing free of the disease. Under relatively ideal growing conditions, such as may be found in a greenhouse where most of the enemies of sugarcane are eliminated, it is extremely difficult to distinguish stunting-disease-infected plants from those that are free of the disease by visual observation. However, usually they may be separated if the plants have made sufficient growth and if certain specially selected varieties are used, by splitting the stalks and examining them for reddish discoloration at the nodal region.

The difference in yield between a stunting-disease-infected plant and plants freed of the disease under field conditions will depend in a large measure on the extent to which that diseased plant has succumbed to the stunting disease virus. In a large population of sugarcane this is probably dependent upon the total number of plants that have become infected, as well as the resistance a specific variety has against the effects of the disease organism after infection. It is now apparent that both the rate of infection and resistance to the disease after infection differ among varieties; however, the information on this relationship is by no means complete.

That the sugarcane plant can be cured of stunting disease has been amply demonstrated in Australia and in other countries, as well as here in Louisiana. The only known method of doing this, as shown by the work of the Bureau of Sugar Experiment Stations, Queensland,[7] is

by subjecting the plants to heat at a given temperature for a pre-determined length of time. Here in Louisiana the recommendation, based on three seasons' experience,[3] is to treat the sugarcane stalks with hot air at 54° C. for 8 hours (with the inlet temperature of the heating chamber set for 135 to 137° F.). The recommendation does not necessarily mean that hot air is superior to hot water as a means of controlling the disease itself, since either appears to be equally effective here in Louisiana based on limited data, but rather hot air was recommended for two reasons: first, hot air, in general, is less injurious to the seed piece, particularly when heat treatment is performed early in the planting season; and second, hot-air-treating units are more practical on many farms where steam is not available as a heat source and the acquisition of a large heavy metal water tank is almost impossible.

Although in the heat treatment of a large number of stalks a few stalks may not be freed of the disease due in all probability to non-uniformity of temperature distribution, a sufficient number are cured to cause a spectacular increase in yield in most cases. However, whether or not the yield increase due to heat treatment will be very large will depend upon how extensively the disease has spread within the variety, as well as upon the resistance of the variety in question to the effects of the disease.

Surveys have shown that most of the commercial varieties in Louisiana are rather extensively infected and thus would be expected to respond to heat treatment. An experiment designed to determine this response was undertaken in the fall of 1954, in which replicated plots of several commercial, former commercial, and unreleased varieties were planted with untreated or "field run" seed in comparison with progeny of heat-treated seed of each variety. The progeny seed was from the same original plot as the untreated seed, and was grown from cane that was treated with hot air 54° C. for 8 hours in the fall of 1953. The results of the plant cane crop are in tables 1 and 2.

The response to heat treatment evident from the data in the tables illustrates what can be expected from a commercial heat-treating program. The response of C. P. 43/47, as shown in figure 1, was particularly marked. However, the differences in yield from treated and untreated seed shown between varieties in this single experiment can not be taken as absolute figures or as a basis for choosing varieties to be grown, but rather as indicating in a general way the response that can be expected from heat treatment of varieties that have been chosen for commercial use for other reasons.

That part of the increased yields shown in table 1 resulted from better germination in the heat-treated plots is evident from the following figures showing the percentage increase in stand in May 1954 in the plots planted with progeny seed as compared with the field run:

Variety	% Increase in Stand
Co. 281	65
Co. 290	50
N. Co. 310	9
C. P. 29/116	8
" 29/320	32
" 34/120	45
" 36/105	61
" 43/47	51
" 44/101	7
" 44/155	36

There is ample evidence that in Louisiana stunting disease is one cause of poor germination of plant cane.[6]

The results in these tables indicate a tendency for the older varieties, i.e., those such as Co. 281, Co. 290, C. P. 34/120, and C. P. 29/320 that have been grown commercially for extended periods, to show a greater response to the curative effects of heat treatment than varieties more recently introduced. That this response is not because of greater susceptibility to the disease of the older varieties as compared with the newer ones is indicated by the fact that when the newer varieties were arti-

ficially inoculated with the stunting disease virus some of them showed marked reductions in yield (data not included in the tables). This lends further support to the concept that this disease tends to be accumulative, the rate of infection and/or spread inside the plant being quite

TABLE 1

The effect of heat treatment of seed cane on the yield of 10 varieties of sugarcane on mixed soil (Mhoon silt loam) at the Houma Station (Ave. of 4 replications of 3-row plots 12-ft. long)

Variety	Tons Cane per Acre: Not heat treated (Diseased)	Tons Cane per Acre: Heat treated 1/	Increase in yield	Lbs. Sugar per Ton of Cane 2/: Not heat treated (Diseased)	Lbs. Sugar per Ton of Cane 2/: Heat treated	Lbs. Sugar per Acre: Not heat treated (Diseased)	Lbs. Sugar per Acre: Heat treated	Increase in yield
			%					%
Co. 281	18.7	31.2	67	138	146	2579	4550	76
Co. 290	35.4	46.4	31	162	159	5742	7363	28
C.P. 29/116	35.2	36.0	2	159	154	5590	5556	0
C.P. 29/320	21.5	28.3	32	192	191	4125	5400	31
C.P. 34/120	21.3	36.1	69	177	178	3778	6418	70
C.P. 36/105	25.5	38.3	50	178	161	4536	6159	36
C.P. 43/47	16.5	30.8	87	177	178	2908	5482	89
N. Co. 310	39.3	42.8	9	182	175	7169	7482	4
C.P. 44/101	37.1	37.1	0	175	167	6499	6180	0
C.P. 44/155	25.6	36.2	41	201	182	5135	6604	29
Average	27.6	36.3	32	174	169	4806	6119	27
	LSD .05 = 1.6 Tons			LSD .05 = 6.4 lbs		LSD .05 = 278 lbs.		

[1] Progeny of heat treated seed, not directly heat treated.
[2] Weighted average value.

TABLE 2

The effect of heat treatment of seed cane on the yield of 10 varieties of sugarcane on mixed soil (Mhoon silt loam) at the Houma Station (Ave. of 4 replications of single-row plots 12-ft. long)

Variety	Tons Cane per Acre: Not heat treated (Diseased)	Tons Cane per Acre: Heat treated 1/	Increase or decrease in yield	Lbs. Sugar per Ton of Cane 2/: Not heat treated (Diseased)	Lbs. Sugar per Ton of Cane 2/: Heat treated	Lbs. Sugar per Acre: Not heat treated (Diseased)	Lbs. Sugar per Acre: Heat treated	Increase or decrease in yield
			%					%
C.P. 28/19	14.6	29.0	99	190	165	2771	4786	73
C.P. 29/103	26.7	29.9	12	135	124	3616	3710	3
C.P. 29/120	15.4	20.5	33	141	155	2168	3176	47
C.P. 36/13	33.9	43.9	29	195	186	6603	8183	24
C.P. 36/183	23.2	31.4	35	178	162	4121	5091	24
C.P. 44/101	32.7	38.6	18	179	174	5848	6705	15
C.P. 44/154	42.1	39.9	-6	163	141	6853	5606	-22
C.P. 47/193	32.8	33.7	3	189	187	6206	6307	2
C.P. 48/103	28.2	32.4	15	229	214	6444	6947	8
C.P. 50/11	34.8	33.4	-4	173	171	6019	5695	-6
Average	28.4	33.3	17	178	169	5065	5621	11
	LSD .05 = 1.8 Tons			LSD .05 = 5.6 lbs.		LSD .05 = 348 lbs.		

[1] Progeny of heat treated seed, not directly heat treated.
[2] Weighted average value.

slow in most cases; so slow, in fact, that the decline in yields goes almost unnoticed in many canes until a new variety is released and comparisons are made. One exception to this is C. P. 29/116, which has shown a slight tendency to decline in yield over a period of years, and which showed a relatively small response to heat treatment.

In order to demonstrate the results expected under field conditions, from heat treatment, as well as to determine how long cane that had been heat treated would remain free of stunting disease, a yield trial was planned, the results of which for two years are now available. They are presented in table 3 and figure 2.

In the plant cane crop planted directly with heat treated seed cane, the beneficial effects of heat treatment in curing the seed piece of stunting disease are in a large measure canceled by the detrimental effects of the heat treatment itself. The stand of cane is usually reduced by the heat treatment. If, however, the heat treatment operation is carried on sufficiently early in the planting season, so that an independent plant is produced before freezing weather occurs, the heat-treated cane has a much greater chance of surviving and coming up to a creditable stand the following spring. Assuming that the data in table 3 are representative, the first beneficial effect from heat treatment should be noted the following year after treatment. The first stubble of C. P. 44/101, as shown in table 3, gave a 33 percent increase in yield as compared to cane that was not heat

Fig. 1. Effect of stunting disease on growth of C. P. 43/47 plant cane. Right, RSD infected; left, grown from progeny of hot-air-treated seed. Both plots from same original seed source prior to heat treatment. U. S. Sugarcane Field Station, Houma, La., August 10, 1955.

TABLE 3

The effect of heat treatment of seed cane on the yield of C.P. 44/101

	Tons Cane per Acre			Lbs. Sugar per Ton of Cane			Lbs. Sugar per Acre		
	Not heat treated (Diseased)	Heat treated	Increase in yield	Not heat treated (Diseased)	Heat treated		Not heat treated (Diseased)	Heat treated	Increase in yield
			%						%
Plant cane 1954 (Planted with heat treated seed cane)	27.8	31.2	12	196	193		5447	6012	10
	LSD .05 = 3.9 Tons			LSD .05 = 13 Lbs.			LSD .05 = 789 Lbs.		
1st stubble 1955	29.3	38.9	33	180	162		5272	6283	19
	LSD .05 = 3.8 Tons			LSD .05 = 13 Lbs.			LSD .05 = 690 Lbs.		
Plant cane 1955 (Planted with seed cane from plant cane 1954 experiment)	26.2	37.4	43	184	172		4831	6444	33
	LSD .05 = 6 Tons			LSD .05 = 13 Lbs.			LSD .05 = 1164 Lbs.		

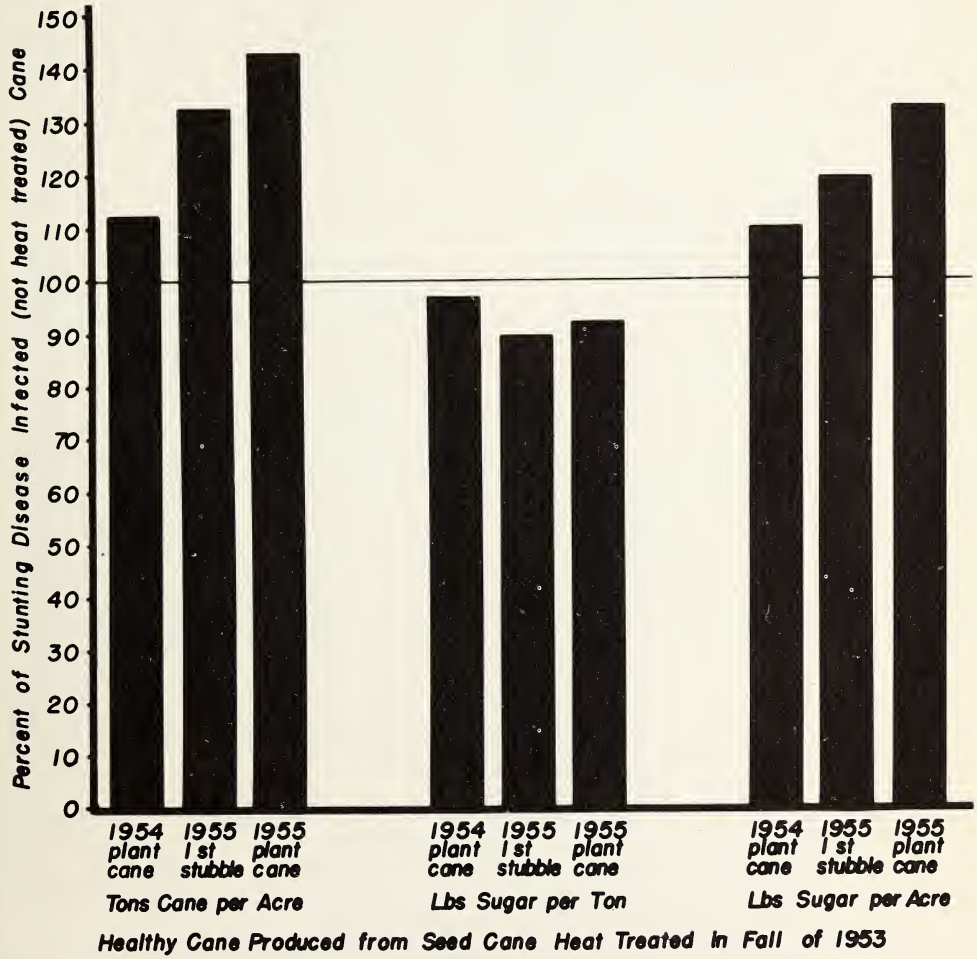

Fig. 2. Yields of cane and sugar of heat-treated C. P. 44/101 in percent of the yield of ratoon-stunting-disease-infected cane of the same variety (untreated) over a 2-year period.

treated. The plant cane crop from progeny of heat treated seed was even better and gave a 43 percent increase in yield over cane that was not heat treated. These results are clearly demonstrated in figure 2.

It is to be emphasized, however, that curing the disease by heat treatment does not guarantee that the cane will not again become infected and revert eventually to its previously low-yielding condition. Under practical circumstances reinfection can be delayed appreciably by simply taking the precaution of sterilizing the harvester cutter blades, or cane knives used in harvesting, before entering a field of cane grown from heat-treated seed cane. This could be accomplished by thorough heating with steam from a steam generator, or by a thorough wash with detergent and water followed by heating with a blow torch. It is well also to be certain that no volunteer cane that has not been heat treated be allowed to develop in the heat treated cuts.

Of particular concern to some growers who have been heat treating a certain amount of their seed cane for the past few years has been the small but measureable drop in sucrose that they have observed in the progeny of heat-treated seed. The lower sucrose content of healthy cane was noted early in the study of the disease at Houma.[2] In reviewing the sugar-per-ton data of tables 1, 2, and 3, it becomes readily apparent there is actually a small but consistent difference in sucrose between healthy and stunting-disease-infected cane which in the majority of cases is in favor of the diseased cane. These data for 27 varieties that have been included in our replicated yield trials are summarized in table. 4.

TABLE 4

Effect of hot air treatment of seed cane on yields of sugar per ton of cane of 28 varieties of sugarcane (grown from progeny of heat-treated seed). Averages of 4 replications of 27 varieties; 16 replications of C.P. 44/101.

Variety	Sugar per Ton of Cane	
	Treated	Untreated
	Lbs.	Lbs.
C.P. 28/19	161	189
29/103	123	134
29/116	154	159
29/120	156	141
29/320	191	192
34/120	178	177
36/13	187	196
36/105	161	180
36/183	160	174
43/47	178	177
44/101	176	184
44/154	141	162
44/155	183	202
47/193	188	189
48/103	215	229
50/11	171	171
52/11	162	173
52/32	182	192
52/37	182	178
52/38	177	177
52/58	164	170
52/60	170	171
52/67	162	187
52/68	196	198
53/1	175	185
53/15	154	167
Co. 290	159	163
N. Co. 310	175	183
Avg. of 28 varieties	171	179
L.S.D. .01 —4 lbs.		

The average of all varieties shows a highly significant decrease of 8

TABLE 5

Effect of heat treatment of seed cane on yields of sugar determined by a complete milling test using 2 replications per treatment

Variety	Treatment	Yield of cane per acre	Normal Juice			Indicated yield of 96° sugar		Fiber in cane
			Sucrose	Purity	Extraction	Per ton of cane	Per acre	
		tons	%	%	%	pounds	pounds	%
Co. 290	Heat treated	48.4	12.09	76.82	79.97	176.9	8560	10.48
" "	Not heat treated	36.1	12.72	78.22	81.83	192.0	6930	10.59
C.P. 36/105	Heat treated	40.5	12.62	78.13	77.65	179.3	7263	13.48
" "	Not heat treated	26.2	13.13	78.91	77.39	188.4	4936	12.72

pounds of sugar per ton of cane after being subjected to the curative heat treatment. It is thought that the increase in sucrose noted in cane infected extensively with stunting disease is a result of the same forces that sometimes cause an increase in sucrose when cane is subjected to other unfavorable growing conditions, such as drought; but more investigation will have to be undertaken before this can be definitely established. This decrease in sucrose is outweighed by the comparatively larger increase in tons of cane per acre which results from heat treatment.

In order to determine whether the general decrease in sugar per ton of cane observed after sugarcane had been heat treated, i.e., partially freed of stunting disease, was due to differences in sucrose and purity between stunting-disease-infected cane and heat-treated cane, or to difference in juice extraction between the two, a complete milling test, as described by Arceneaux et al[5] was run on two varieties. In all previous experiments the indicated yield of sugar per unit weight of cane was computed on the basis of "crusher juice" obtained by crushing cane by means of a laboratory mill giving 50 to 60 percent extraction, and analyzing samples of the juice for Brix and percent sucrose.

In table 5 the results of a complete milling test are given for varieties Co. 290 and C. P. 36/105.

Although the test was quite limited in scope, the results were so in harmony with the previous data on crusher juice analysis that it is assumed to be reasonably accurate. The differences in sugar per ton of cane appear to be due solely to differences in percent sucrose and purity between stunting-disease-infected and heat-treated cane. Apparently the percent extraction and fiber in both diseased and healthy sugarcane had little effect upon the differences in sugar obtained per ton of cane. It is realized, however, that these results must be strengthened by further data before definite conclusions can be drawn. The increase in yield of sugar per acre due primarily to obvious increases in tonnage of sugarcane resulting from the heat treatment is of such proportions that the slight decrease in sucrose becomes relatively unimportant.

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FERTILIZER INVESTIGATIONS ON SUGARCANE IN 1955

By Lester G. Davidson, Research Agronomist, Field Crops Research Branch, Agricultural Research Service, United States Department of Agriculture.

(Report to the Contact Committee of the American Sugar Cane League, June 28, 1956)

During 1955, 17 field fertilizer experiments were conducted by the Houma Station on some of the major soil types used for sugarcane production in Louisiana. Four of these were large plot experiments, using plots 3 or 6 rows wide, extending the full length of the cut. In these experiments the cane was fertilized using regular plantation equipment. At harvest the cane was cut mechanically, weighed on the factory scale, and the sucrose and trash analyses were made at the factory. Tabulated data from these experiments show the normal juice analyses, and yields of sugar per ton of cane as calculated from the table of the Production and Marketing Administration (Sugar Branch) entitled "Commercially Recoverable Sugar Determination for 1955 Crop", published in the December 15, 1955 issue of *The Sugar Bulletin.*

Eight of the small plot experiments were conducted with the agronomists of the station at the outfield variety test fields. In the small plot experiments the cane was hand cut, and weighed on the station cane weighing machine. Cane samples were analyzed at the Houma Station. Tabulated data from these experiments show the crusher juice analyses, and yields of sugar per ton of cane as calculated according to the Wniter-Carp-Geerlings formula. Calculations were based on fresh, clean cane, properly hand topped. For this reason, the sugar per ton of cane values shown in tabulated data for the small plot experiments are somewhat higher than would be obtained by use of the P.M.A. conversion table.

Rate-of-Nitrogen Experiments

The effects of different rates of nitrogen on yields of cane and sugar per acre and on juice quality were studied in 7 experiments on plant cane and 6 on stubble cane.

Table 1 shows the effect of 40 and 80 pounds of nitrogen per acre on plant cane on light soil in 5 agronomy variety test fields. Data for each nitrogen rate in each experiment are based on averages obtained from 2 plots of each of 8 varieties. In each experiment the sucrose and purity of the crusher juice were slightly reduced by the use of 80 pounds of nitrogen per acre as compared to 40 pounds. The only significant yield difference was obtained at Bon Secour, where a significant increase in yield of sugar per acre resulted from the use of the higher rate of nitrogen. Averages for all 5 experiments show comparable yields of cane and sugar per acre from the two rates of nitrogen.

Table 2 presents data from an experiment on Baldwin silt loam on Oaklawn Plantation, with C.P. 44/155 plant cane. Average results of the first 4 treatments supplying 40 pounds of nitrogen per acre and the last 4 treatments supplying 80 pounds of nitrogen per acre show almost identical juice sucrose and purities and practically equal yields of cane and sugar per acre.

Table 3 shows data from an experiment on Mhoon silty clay loam on the Houma Station, with plant cane of 4 varieties. Average results for all 4 varieties, using 0, 40, 80, and 120 pounds of nitrogen per acre, show no significant yield increases from nitrogen and no appreciable differences in sucrose and purity of the juice.

Table 4 shows the effects of 80 and 120 pounds of nitrogen per acre on first stubble cane on light soil in 3 agronomy variety test fields. Data

for each nitrogen rate in each experiment are based on averages obtained from 2 plots of each of 20 varieties. The crusher juice sucrose and purity were slightly reduced by the higher rate of nitrogen. At Oaklawn Plantation significant increases in yields of cane and sugar per acre were obtained by use of the higher rate of nitrogen. Average results of

TABLE 1
Effect of Two Rates of Nitrogen on Plant Cane in Agronomy Variety Test Fields

Plantation	Nitrogen per acre	Crusher juice analysis: sucrose	Crusher juice analysis: purity	Cane per acre	Indicated available 96° sugar at harvest
	pounds	%	%	tons	pounds per acre
Alma	40	12.32	75.21	33.95	5297
	80	11.96	74.29	33.76	5057
Bon Secour	40	13.86	82.35	26.58	4904
	80	13.52	81.89	28.82	5170
Levert-St.John	40	12.92	76.22	25.09	4125
	80	12.63	74.87	24.84	3950
Oaklawn	40	14.25	82.70	32.04	6091
	80	13.90	82.30	32.35	5982
Raceland	40	14.05	82.84	32.36	6071
	80	13.61	82.24	32.54	5890
Averages	40	13.48	79.86	30.00	5298
	80	13.12	79.12	30.46	5210

Dates harvested: Alma: 11-16-55
Bon Secour 11-15-55
Levert-St. John 11-29-55
Oaklawn 11-23-55
Raceland 11-22-55

TABLE 2
OAKLAWN PLANTATION
Franklin, La.
Plant cane 1955

Baldwin silt loam **C.P. 44/155**

Fertilizer treatments: N - P_2O_5 - K_2O - Mo 1/	Normal juice analysis: Brix	Normal juice analysis: Sucrose	Normal juice analysis: Purity	Cane per Acre	Commercially recoverable sugar at harvest: Per ton of cane	Commercially recoverable sugar at harvest: Per acre
pounds per acre	%	%	%	tons	pounds	pounds
40-0-0-0	17.66	14.58	82.56	25.00	199.7	4992
40-0-0-1/7	18.06	15.09	83.55	25.30	207.9	5260
40-45-45-0	18.14	15.06	83.02	25.83	207.5	5360
40-45-45-1/7	18.43	15.64	84.86	25.86	217.0	5612
80-0-0-0	18.25	15.32	83.95	25.50	211.7	5398
80-0-0-1/7	18.04	15.04	83.37	24.73	207.1	5122
80-45-45-0	17.75	14.69	82.76	25.28	201.4	5091
80-45-45-1/7	17.88	14.94	83.56	26.37	205.5	5419

Yield differences are not significant at 19 to 1 odds.

[1] 1/7 lb. Mo was applied in the form of hydrated sodium molybdate at the rate of 6 oz. per acre.

Data are averages of 4 plots, each six rows wide by the full length of the cut, having an average area of about 0.4 acre. Fertilizer applied April 21, 1955; cane harvested December 12, 1955. Fertilizer materials used were aqua ammonia, 0-14-14, and hydrated sodium molybdate. The cane was cut by machine, burned, and weighed on the factory scale. The trash deduction was 3.73%.

the 3 experiments show a significant increase in yield of cane per acre from the higher rate of nitrogen, but no significant difference in sugar per-acre yields.

Table 5 shows data from an experiment with first stubble cane of 4 varieties on Mhoon very fine sandy loam on Mandalay Plantation. Average yield increases, for the 4 varieties, of the treatment supplying 0, 80, and 120 pounds of nitrogen per acre were as follows: With treatments supplying 80 pounds of nitrogen per acre, as compared to no nitrogen, highly significant yield increases amounting to 9.59 tons of cane and 1889 pounds of sugar per acre were obtained. Further significant yield increases amounting to 4.12 tons of cane and 636 pounds of sugar per acre were obtained from treatments supplying 120 pounds of nitrogen per acre.

Table 6 shows data for an experiment on the Houma Station with first stubble cane of 4 varieties on Mhoon silty clay loam. Nitrogen rates used were 0, 40, 80, and 120 pounds per acre. Average yields of the 4 varieties were significantly increased by 3.3 tons of cane and 700 pounds of sugar per acre with the use of 40 pounds of nitrogen per acre

TABLE 3
HOUMA STATION
Houma, La.

Mhoon silty clay loam — **Plant cane—1955** — **Four varieties**

Nitrogen per acre	Crusher juice analysis			Cane per acre	Indicated available 96° sugar at harvest	
	Brix	Sucrose	Purity		Per ton of cane	Per acre
pounds	%	%	%	tons	pounds	pounds
C.P. 44/101						
0	16.79	13.40	79.81	36.18	175.3	6342
40	16.74	13.39	79.99	37.37	175.3	6551
80	16.44	13.08	79.56	34.77	170.8	5939
120	16.94	13.44	79.34	35.07	175.2	6144
C.P. 47/193						
0	16.88	13.78	81.64	24.02	182.5	4384
40	17.26	14.12	81.81	26.00	187.2	4867
80	17.10	14.17	82.87	26.90	189.2	5089
120	17.33	14.46	83.44	25.49	193.8	4940
C.P. 48/103						
0	17.92	14.94	83.37	24.75	200.2	4955
40	18.34	15.75	84.88	27.10	214.3	5808
80	17.60	14.63	83.13	25.24	195.7	4939
120	17.46	14.15	81.04	27.87	186.7	5203
C.P. 50/41						
0	15.14	10.89	71.93	35.36	133.5	4721
40	14.46	9.98	69.02	36.68	118.9	4361
80	15.62	11.70	74.90	39.22	147.3	5777
120	15.54	11.23	72.27	40.27	138.1	5561

Data are averages of two plots, each three rows wide by 30 feet long.
Fertilizer applied April 27, 1955, cane harvested December 13, 1955.

TABLE 4
Effect of Two Rates of Nitrogen on First Stubble Cane in Agronomy Variety Test Fields

Plantation	Nitrogen per acre	Crusher juice analysis sucrose	purity	Cane per acre	Indicated available 96° sugar at harvest
	pounds	%	%	tons	pounds per acre
Alma	80	12.72	76.81	26.23	4268
	120	12.23	75.26	28.38	4382
Oaklawn	80	14.00	80.60	16.87	3106
	120	13.70	78.92	20.72	3688
Raceland	80	12.68	78.76	28.37	4670
	120	12.44	78.34	28.19	4539
Averages	80	13.13	78.72	23.82	4015
	120	12.79	77.51	25.76	4203

Dates harvested: Alma 11-16-55
Oaklawn 11-26-55
Raceland 11-9-55

as compared to the unfertilized controls. No further significant yield increases were obtained by the use of the two higher rates of nitrogen.

Data from an experiment with second stubble cane of 5 varieties on Mhoon silty clay loam on the Houma Station are shown in table 7. Nitrogen was applied at 0, 80, and 120 pounds per acre. Significant yields increases amounting to about 4.7 tons of cane and 870 pounds of sugar per acre resulted from the use of 80 pounds of nitrogen per acre, as compared to the unfertilized controls. Yields were not further increased by the use of 120 pounds of nitrogen per acre.

A summary of the rate of nitrogen experiments shows that, for plant cane on light soil, a significantly higher yield of sugar per acre was obtained in only one experiment from the use of 80 pounds as compared to 40 pounds of nitrogen per acre. The plant cane experiment on heavy soil showed no significant response to nitrogen. Significant increases in yields of cane and sugar per acre from the use of 120 pounds as compared to 80 pounds of nitrogen per acre were obtained in 2 of the 4 first stubble cane experiments on light soil. Of the 2 stubble cane experiments on heavy soil, one showed significant response to 40 pounds, the other to 80 pounds of nitrogen per acre, with no additional significant response to heavier nitrogen applications.

NPK Experiments

Two experiments were designed to study the effects of complete mixtures as compared to nitrogen alone. One experiment was with C.P. 44/155 plant cane on Baldwin silt loam on Oaklawn Plantation. Data for this experiment are shown in table 2. These data show that although somewhat higher yields were obtained from cane fertilized with complete mixtures, these differences were not large enough to be statistically significant. Data for the other experiment are shown in table 5. This experiment was with first stubble cane of 4 varieties on Mhoon very fine sandy loam on Mandalay Plantation. The average yields for the 4 varieties were not significantly increased by the use of complete mixtures as compared to nitrogen alone.

Fertilizer recommendations were prepared jointly by the Louisiana Agricultural Experiment Station and the Houma Station of the U. S. Department of Agriculture, based on results of field fertilizer experiments conducted by the two stations during the past several years. There is

no change in these recommendations which have been published in the March 15, 1956, issue of *The Sugar Bulletin.*

Variety x Nitrogen Interaction Experiments

Twelve experiments of this type were conducted in 1955, 6 with plant cane and 6 with stubble cane. These experiments were designed to determine the relative response to nitrogen of the important commercial and promising unreleased varieties of sugarcane, in order that growers may apply more nitrogen to varieties that show response to higher applications, and also to make this information available at the time a variety is released.

Five of the plant cane experiments were conducted on light soil in cooperation with the agronomists at the outfield agronomy variety test stations. The average yields of all varieties for the 2 nitrogen rates used are shown in table 1. A signif-

TABLE 5
MANDALAY PLANTATION
Houma, La.
First stubble cane—1955

Mhoon very fine sandy loam — **Four varieties**

Fertilizer treatments N - P_2O_5 - K_2O	Crusher juice analysis: Brix	Sucrose	Purity	Cane per acre	Indicated available 96° sugar at harvest: per ton of cane	per acre
pounds per acre		%	%	tons	pounds	pounds
C. P. 44/101						
0-0-0	17.86	15.33	85.83	26.92	208.5	5613
0-80-80	17.68	15.21	86.03	24.16	207.1	5004
80-0-0	17.82	15.50	86.98	33.12	212.3	7031
80-80-80	17.38	15.06	86.65	32.16	205.8	6619
120-0-0	17.58	15.14	86.12	38.80	206.3	8004
120-80-80	17.04	14.40	84.51	39.62	194.3	7698
C. P. 48/103						
0-0-0	18.18	16.10	88.56	25.74	222.4	5724
0-80-80	18.64	16.70	89.59	22.42	232.0	5201
80-0-0	17.42	15.00	86.11	36.64	204.4	7489
80-80-80	18.34	16.18	88.22	36.52	223.1	8148
120-0-0	18.24	15.90	87.17	35.49	218.0	7737
120-80-80	18.39	16.00	87.00	39.02	219.1	8549
N. Co. 310						
0-0-0	17.70	14.89	84.12	27.10	200.4	5430
0-80-80	17.25	14.88	86.26	29.82	202.9	6050
80-0-0	17.76	15.10	85.02	37.45	204.4	7655
80-80-80	16.56	13.72	82.85	36.52	183.2	6690
120-0-0	16.72	14.11	84.39	40.18	190.3	7646
120-80-80	16.66	13.80	82.83	44.10	184.2	8123
C. P. 50/25						
0-0-0	18.90	16.59	87.78	16.48	228.2	3761
0-80-80	19.04	16.82	88.34	23.78	232.1	5519
80-0-0	18.29	15.90	86.93	31.12	217.7	6775
80-80-80	19.20	17.10	89.06	29.58	236.9	7008
120-0-0	18.62	16.08	86.36	35.23	219.4	7729
120-80-80	18.07	15.38	85.11	33.68	208.3	7016

Data are averages of two plots, each three rows wide by 30 feet long.
Fertilizer materials used were ammonium nitrate, superphosphate, and muriate of potash. Cane fertilized March 18, 1955; harvested November 22, 1955.

icant variety x nitrogen interaction was found only on Levert-St. John Plantation, and there with a single variety. At this location the average yields of all varieties were 25.09 tons of cane and 4125 pounds of sugar per acre for 40 pounds of nitrogen, and 24.84 tons of cane and 3950 pounds of sugar per acre for 80 pounds of nitrogen. C.P. 48/103, with 40 pounds of nitrogen per acre, produced 19.32 tons of cane and 3893 pounds of sugar per acre. With 80 pounds of nitrogen, yields of this variety were increased by 2.81 tons of cane and 500 pounds of sugar per acre. These data are the result of a single experiment and therefore there are no changes in the fertilizer recommendations for this variety. The other experiment of this type, on Mhoon silty clay loam on the Houma Station, showed no significant variety x nitrogen interaction.

Three of the stubble cane experiments, designed to study variety x nitrogen interaction, were conducted on light soil in cooperation with the agronomists at the outfield agronomy variety test stations. The average yields of all varieties for the 2 rates of nitrogen used are shown in table 4. The higher rate of nitrogen used resulted in significantly greater yield increases at Oaklawn Plantation than at the other 2 locations.

TABLE 6
HOUMA STATION
Houma, La.
First stubble cane—1955

Mhoon silty clay loam — **Four varieties**

Nitrogen per acre	Crusher juice analysis			Cane per acre	Indicated available 96° sugar at harvest	
	Brix	Sucrose	Purity		Per ton of cane	Per acre
pounds	%	%	%	tons	pounds	pounds
C. P. 36/105						
0	16.61	13.54	80.55	21.09	178.0	3754
40	16.36	13.07	79.89	25.74	171.0	4402
80	16.71	13.50	80.79	25.59	177.8	4550
120	15.66	12.06	77.01	25.75	154.4	3976
C. P. 44/101						
0	15.46	11.66	75.42	30.93	147.4	4559
40	15.86	12.23	77.11	37.69	156.8	5910
80	15.84	12.24	77.27	33.19	157.1	5214
120	15.38	11.52	74.90	35.05	145.0	5082
C. P. 50/11						
0	16.46	12.97	78.80	19.68	168.4	3314
40	16.51	13.03	78.92	22.42	169.3	3796
80	16.11	12.54	77.84	22.32	161.6	3607
120	16.18	12.48	77.13	25.61	160.0	4098
N. Co. 310						
0	15.76	12.13	76.97	28.51	155.3	4428
40	16.51	13.14	79.59	27.60	171.6	4736
80	15.56	11.82	75.96	31.98	150.1	4800
120	16.11	12.44	77.22	34.10	159.6	5442

Data are averages of 2 plots, each three rows wide by 30 feet long.
Fertilized April 27, 1955; cane harvested October 31, 1955.

Variety x nitrogen interactions were not significant at any of these locations.

No significant variety x nitrogen interactions were found in the light soil stubble cane experiment on Mandalay Plantation or in the 2 stubble cane experiments on the Houma Station.

Minor Element Experiment

Experiment station workers in Australia and New Zealand have shown that yields on large acreages of cropland could be greatly increased by the use of very small amounts of sodium molybdate. Yield increases were most frequently obtained on acid soils.

Data in table 2 show results of an experiment using sodium molybdate on plant cane on Oaklawn Plantation. Sodium molybdate, at 6 ounces per acre, was applied as a spray on plots fertilized with nitrogen and with complete mixtures. There was no significant response to the use of sodium molybdate.

Trash Experiments

Two experiments, on Martin Ridge Plantation, were started during the 1954 harvest season to study the effects of chopped cane tops, with and without nitrogen additions to the trash, on yields of the succeeding crops. It was felt that such data would be of interest to growers who are considering the use of the top shredder on the Thomson cane harvester as an aid in borer control. Data for these experiments are shown in table 8. The 1954 crop was cut early in November was a Thomson harvester equipped with a top shredder attachment. The freshly chopped

TABLE 7
HOUMA STATION
Houma, La.

Mhoon silty clay loam — Second stubble cane—1955 — Five varieties

Nitrogen per acre	Crusher juice analysis			Cane per acre	Indicated available 96° sugar at harvest	
	Brix	Sucrose	Purity		Per ton of cane	Per acre
pounds	%	%	%	tons	pounds	pounds
			C.P. 36/105			
0	14.64	11.21	76.57	11.17	143.1	1598
80	14.84	11.57	77.96	11.66	149.3	1740
120	14.56	10.99	75.48	14.04	139.0	1952
			C.P. 43/47			
0	14.62	11.14	76.20	8.40	141.8	1191
80	14.51	11.04	76.09	12.38	140.4	1738
120	14.16	10.58	74.72	7.67	133.0	1020
			C.P. 44/101			
0	14.18	10.60	74.75	11.24	133.3	1498
80	15.59	12.22	78.38	21.86	158.2	3458
120	14.26	10.46	73.25	15.78	129.8	2048
			C.P. 44/155			
0	14.11	10.43	73.92	12.64	130.2	1646
80	15.24	11.84	77.69	17.85	152.4	2720
120	15.28	11.85	77.55	21.00	152.4	3200
			C.P. 48/103			
0	15.26	12.18	79.71	10.41	159.2	1657
80	15.94	12.89	80.87	13.46	169.8	2286
120	16.14	13.00	80.55	15.02	170.9	2567

Data are averages of two plots, each 5 rows wide x 28 feet long. Cane fertilized April 27, 1955; harvested October 21, 1955.

tops amounted to about 10 tons per acre. As soon as the cane was hauled, nitrogen at 20 and 40 pounds per acre, from aqua ammonia and cyanamid, was applied to the trash and the middles were wrapped. The 1955 cane crop was fertilized uniformly with 80 pounds of nitrogen per acre. Yields of this crop were not significantly affected by the trash and nitrogen treatments applied during the 1954 harvest season. Since these data

TABLE 8
MARTIN RIDGE PLANTATION
Franklin, La.

Baldwin silt loam — **First stubble** — **C.P. 44/101**

Nitrogen per acre: on trash	on cane	Source of Nitrogen (on trash)	Normal juice analysis: Brix	Sucrose	Purity	Cane per Acre	Commercially recoverable sugar at harvest: Per ton of cane	Per acre
pounds			%	%	%	tons	pounds	pounds
0	80	- - - - - - -	16.80	13.04	77.62	23.70	174.8	4143
20	80	Aqua ammonia	17.06	13.36	78.31	24.43	180.0	4397
40	80	Aqua ammonia	16.07	12.28	76.42	23.60	162.8	3842
40	80	Cyanamid	17.20	13.60	79.07	19.85	183.8	3648

Yield differences are not significant at 19 to 1 odds.

Previous crop cut with Thomson Harvester equipped with top shredder. Nitrogen on trash applied November 16, 1954. Nitrogen (anhydrous ammonia) an cane applied April 1955; cane harvested November 13, 1955. The cane was cut by machine, burned, and weighed on the factory scale. The trash deduction was 6.31%.

Second stubble — C.P. 44/101

0	80	- - - - - - -	16.78	13.02	77.59	23.36	174.5	4076
20	80	Aqua ammonia	17.32	14.38	83.03	23.61	196.4	4637
20	80	Cyanamid	17.18	13.46	78.55	22.12	181.6	4017
40	80	Aqua ammonia	17.13	13.40	78.22	22.55	180.6	4073
40	80	Cyanamid	17.18	13.35	77.71	24.67	179.8	4436

Yield differences are not significant at 19 to 1 odds.
Previous crop cut with Thomson Harvester equipped with top shredder. Nitrogen on trash applied November 10, 1954. Nitrogen (anhydrous ammonia) on cane applied April 1955; cane harvested November 13, 1955. The cane was cut by machine, burned, and weighed on the factory scale. The trash deduction was 5.02%.

TABLE 9
WOODLAWN PLANTATION
Houma, La.

Sharkey silty clay — **Plant cane—1955** — **C.P. 44/101**

Soil Conditioner Treatments: Krilium	Poly-Ac	Normal juice analysis: Brix	Sucrose	Purity	Cane per Acre	Commercially recoverable sugar at harvest: Per ton of cane	Per acre
pounds per acre	gallons per acre	%	%		tons	pounds	pounds
500	0	17.11	13.99	81.77	26.68	190.0	5069
1000	0	17.09	14.06	82.27	28.45	191.2	5440
2000	0	17.40	14.46	83.10	26.22	197.7	5184
0	45	16.87	13.87	82.22	26.45	188.1	4975
0	225	16.58	13.61	82.09	26.81	184.0	4933
0	0	17.34	14.34	82.70	26.38	195.7	5163

Data are averages of three plots, each three rows wide by 80 feet long. Soil conditioners applied October 2, 1952. A uniform application of 60 pounds of nitrogen per acre (anhydrous ammonia) was made on all plots in April, 1955. The cane was harvested on November 21, 1955.
Yield differences are not significant at 19 to 1 odds.

TABLE 10
POINTE FARM
Montegut, La.
1955

Mhoon silt loam — **First stubble** — **C.P. 44/101**

Nitrogen per Acre			Normal juice analysis			Cane	Commercially recoverable sugar at harvest	
Applied in off-bar furrow	Applied 12"-16" deep in middles	Sub-soiled	Brix	Sucrose	Purity	per Acre	Per ton of cane	Per acre
pounds	pounds			%	%	tons	pounds	pounds
80	0	No	16.98	13.42	79.03	26.69	180.9	4828
80	0	Yes	17.10	13.56	79.30	28.65	183.2	5249
0	80	Yes	17.15	13.58	79.18	27.54	183.5	5054
50	45	Yes	17.07	13.46	78.97	27.16	181.9	4940

Data are averages of eleven plots, each three rows wide by the full length of the cut, having an average area of about 0.12 acre. Fertilizer applied April 1-4, 1955; cane harvested December 28-30, 1955. Fertilizer materials used were aqua ammonia and ammonium nitrate. The cane was cut by machine, burned, and weighed on the factory scales. The trash deduction was 3.39%.
Yield differences are not significant at 19 to 1 odds.

are the results of a single year's experiments, the results are not conclusive.

Soil Conditioners

Table 9 shows results of an experiment in which 2 synthetic soil conditioners, Krilium and Poly-Ac, were used on Sharkey silty clay on Woodlawn Plantation. Yields were not significantly affected by the use of these 2 materials.

Deep Nitrogen Fertilization

The effects of deep nitrogen applications in a single experiment on Mhoon silt loam on Pointe Farm are shown in table 10. The nitrogen was applied in early April, using a single knife colter midway between the cane rows, set to a depth of about 16 inches. This method of application of nitrogen was compared to the conventional application in the off-bar furrow. There were no significant yield differences from these 2 methods of application of nitrogen.

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FERTILIZERS FOR SUGARCANE

D. S. Byrnside, Jr., and M. B. Sturgis, Assistant Agronomist; and Head, Crops and Soils Department, respectively, Louisiana Agricultural Experiment Station, Baton Rouge, Louisiana

In 1955 nine sugar cane fertilizer experiments were conducted. Three of these experiments were with plant cane and six were with stubble cane. As noted in the tables, ammonium nitrate, anhydrous ammonia and aqua ammonia were the sources of N, 20 per cent superphosphate was the source of P_2O_5 and 60 per cent muriate of potash was the source of

TABLE 1
Precipitation at various locations where sugar cane fertilizer experiments were conducted, 1955.

	Experiment Locations							
	Katy Plantation	Idlewild Farms	Young's Industries, Inc.	Pecan Tree Plantation	Little Texas Plantation	Smithfield Plantation	Alice "B" Plantation	Billeaud Plantation
Month	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
January	5.90	3.69	4.84	3.72	5.83	5.26	3.87	5.10
February	3.65	3.21	7.22	5.34	4.85	8.81	2.93	8.11
March	0.00	0.14	0.00	0.10	0.00	0.20	0.00	1.25
April	6.35	6.42	6.42	4.39	8.29	10.31	6.28	6.26
May	5.30	4.90	12.96	4.45	6.33	3.72	5.31	11.27
June	6.80	2.44	6.49	4.95	2.47	1.80	6.04	5.35
July	14.15	11.96	4.91	10.80	11.34	9.21	6.00	6.24
August	14.65	11.05	7.95	6.43	9.28	3.37	7.00	6.53
September	4.10	2.64	1.69	2.13	3.61	2.22	6.28	1.35
October	1.10	3.14	0.59	2.31	2.11	0.73	1.43	2.28
November	3.20	4.44	2.96	3.95	3.00	4.57	4.37	2.87
December	3.85	3.91	5.81	3.77	3.90	4.80	1.56	5.90
Rainfall 1955	69.05	57.94	61.84	52.34	61.01	55.00	51.07	62.51
Total April 1–October 1, 1955	51.35	39.41	40.42	33.15	41.32	30.63	36.91	37.00
Rainfall 1954	56.90	46.69	40.51	61.26	59.71	56.90	— —*	44.98
Total April 1–October 1, 1954	40.10	31.64	21.37	37.10	39.80	32.85	— —*	24.55

* Rainfall data not available for 1954.
The above data was supplied by the managers of the various plantations.

K_2O. The data in Table 1 show the monthly rainfall, the rainfall for April 1 - October 1 and the annual rainfall for 1955. The annual rainfall for 1954 and the rainfall for April 1 - October 1, 1954 are also given.

Fertilizer Ratio Studies with Plant Cane

Data in Table 2 show results from a study with C. P. 36/13 plant cane on Baldwin loam at Katy Plantation. This experiment received its nitrogen in the form of ammonium nitrate, all of which was placed in the off-bar furrow. The 60-40-60 treatment produced the highest yields of cane, 26.68 tons, and sugar, 5111 pounds. These yields of cane and sugar were not significantly better than those from the 80-0-60, but there was a tendency toward a response to the minerals at all levels of nitrogen. Severe beetle damage probably masked further responses to additions of phosphorus and potassium. A soil analysis showed that the exchangeable potassium and easily soluble phosphorus were low.

Table 3 contains data from a study with plant cane of C. P. 44/101 on Baldwin silty clay loam at Idlewild Farms. In this experiment the greatest response was to forty pounds of nitrogen alone.

Results from a study with C. P. 44/101 plant cane on Patoutville loam at Vaufrey Plantation are shown in Table 4. The highest yields of cane, 28.64 tons, and sugar, 5617 pounds, were produced by the 60-40-60 treatment. The treatments containing nitrogen, phosphorus and potassium or nitrogen and potassium yielded more tons of cane and pounds of sugar per acre than did the treat-

TABLE 2

Effect of fertilizers on the yield of sugar cane and sugar on Baldwin loam at Katy Plantation, Franklin, St. Mary Parish, Louisiana, 1955.

Experiment conducted by David S. Byrnside, Jr., Louisiana Agricultural Experiment Station in cooperation with Columbia Sugar Co., and P. J. deGravelles, County Agent.

Pounds per acre N-P_2O_5-K_2O	Tons cane per acre	Normal Juice			Pounds sugar per acre
		Brix	Sucrose	Purity	
0-0-0	18.50	17.49	14.85	84.86	3783
40-0-0	21.77	17.21	14.59	84.72	4360
40-0-60	22.45	17.39	14.82	85.21	4577
40-40-60	23.51	16.64	13.83	83.13	4407
60-0-0	23.12	17.06	14.23	83.39	4477
60-0-60	22.16	17.40	14.62	84.02	4439
60-40-60	26.68	16.91	14.10	83.39	5111
80-0-0	23.79	16.94	14.23	84.00	4610
80-0-60	24.28	17.26	14.54	84.17	4845
80-40-60	23.41	17.03	14.32	84.07	4578

Variety: C. P. 36:13, plant cane; fertilized April 23, 1955; harvested December 15-16, 1955. Least difference necessary for significance was 3.24 tons of cane and 710 pounds of sugar. Juice analyses by Columbia Sugar Co., Franklin, La.

ments which contained only nitrogen. A soil analysis showed that both the easily soluble phosphorus and exchangeable potassium were very low. Very severe beetle damage in the spring from which the crop never fully recovered caused erratic yields which resulted in a large experimental error that limited the evaluation of probable responses to the additions of P_2O_5 and K_2O.

Fertilizer Studies with Stubble Cane

Data in Table 5 show results from a study with first stubble of Co. 290 on Richland silt loam at Young's Industries, Inc. The treatments containing phosphorus and potassium in combination with nitrogen yielded significantly more cane and sugar than did the treatments which contained nitrogen alone. All treatments in which the application of nitrogen was split significantly produced more cane than did the corresponding non-split treatments. The 80-40-60 and 100-40-60 treatments in which the applications of nitrogen were split yielded significantly more cane than did the corresponding split treatments containing only nitrogen. In splitting the applications of nitrogen, one half of the ammonia was placed in the off-bar furrow in early spring. The other half of the ammonia was applied at the last cultivation. The highest yield of cane per acre, 30.67 tons, was produced by the 100-40-60 treatment in which the application of nitrogen was split, while the 80-40-60 treatment in which the application of nitrogen was split produced the most sugar, 4512 pounds. A soil analysis supported the fact that both the easily soluble phos-

TABLE 3

Effect of fertilizers on the yield of sugar cane and sugar on Baldwin silty clay loam at Idlewild Farms, Patterson, St. Mary Parish, Louisiana, 1955.

Experiment conducted by David S. Byrnside, Jr., Louisiana Agricultural Experiment Station in cooperation with Idlewild Farms and P. J. deGravelles, County Agent.

Pounds per acre $N-P_2O_5-K_2O$	Tons cane per acre	Normal Juice			Pounds sugar per acre
		Brix	Sucrose	Purity	
0-0-0	25.15	16.40	12.94	78.84	4354
40-0-0	29.76	16.63	13.10	78.77	5234
40-0-60	30.37	16.34	12.78	78.13	5187
40-40-60	29.63	16.23	12.82	78.95	5085
60-0-0	28.30	16.40	12.92	78.74	4896
60-0-60	28.78	16.44	12.96	78.83	5017
60-40-60	29.87	15.92	12.37	77.65	4918
80-0-0	29.17	16.62	13.17	79.27	5165
80-0-60	29.80	16.11	12.68	78.71	5042
80-40-60	29.74	16.62	13.16	79.15	5292

Variety: C. P. 44/101, plant cane; fertilized March 31, 1955; harvested November 29-30, 1955.
Least difference necessary for significance was 2.71 tons of cane.
Juice analyses by Sterling Sugars Inc., Franklin, La.

phorus and exchangeable potassium were inordinately low.

The results from a study with first stubble of C. P. 44/101 on Mhoon silt loam at Pecan Tree Plantation are shown in Table 6. The highest yields of cane, 32.71 tons, and sugar, 5701 pounds, were received from the 120-0-0 treatment in which the application of nitrogen was split. These yields of cane and sugar were significantly better than the 120-0-0 non-split treatment, but were not significantly better than the 80-0-0 split treatment.

Data in Table 7 show results from a study with C. P. 36/105 first stubble on Mhoon loam at Little Texas Plantation. The 100-0-0 treatment in which the application of nitrogen was split produced the highest yields of cane and sugar. This yield of cane, 31.50 tons, was statistically better than that from the 100-0-0 treatment in which all of the nitrogen was placed in the off-bar furrow, but not better than the yields from the 100-40-60, 100-40-60 Flo-Mix, or the 100-40-60 split treatment. In this experiment Flo-Mix, a commercial liquid fertilizer, was used in comparison with corresponding treatments containing nitrogen and minerals from the solid materials. The application of the liquid materials did not significantly increase the yield of cane or sugar above that of the yield produced by the solid materials.

Table 8 contains data from a study with first stubble of C. P. 36/105 on Commerce very fine sandy loam at Smithfield Plantation. The highest yield of cane, 30.02 tons, was received from the 100-40-60 treatment in which the application of nitrogen

TABLE 4

Effect of fertilizers on the yield of sugar cane and sugar on Patoutville loam at Vaufrey Plantation, Jeanerette, Iberia Parish, Louisiana, 1955.

Experiment conducted by David S. Byrnside, Jr., Louisiana Agricultural Experiment Station in cooperation with Ronald and Dozelia Hebert, farmers, and W. E. Williams, County Agent.

Pounds per acre $N-P_2O_5-K_2O$	Tons cane per acre	Normal Juice			Pounds sugar per acre
		Brix	Sucrose	Purity	
0-0-0	17.99	17.49	14.09	80.56	3468
40-0-0	20.64	17.51	14.07	80.34	3949
40-0-60	21.49	17.70	14.32	80.90	4217
40-40-60	26.69	17.13	13.73	80.19	4983
60-0-0	23.13	17.43	13.95	79.97	4387
60-0-60	23.72	17.22	13.85	80.42	4451
60-40-60	28.64	17.64	14.34	81.32	5617
80-0-0	24.01	17.18	13.30	79.36	4308
80-0-60	26.26	17.28	13.77	79.63	4930
80-40-60	25.61	17.27	13.92	80.54	4827

Variety: C. P. 44/101, plant cane; fertilized April 7, 1955; harvested December 12-13, 1955. Least difference necessary for significance was 5.24 tons of cane and 1287 pounds of sugar. Juice analyses by Loisel Factory, Jeanerette, La.

was split, while the highest yield of sugar, 5031 pounds, was produced by the 100-0-60 treatment. In this experiment the practice of splitting the nitrogen application was no better than applying all of the nitrogen in the off-bar furrow. Also no better increases in yield were received from the liquid fertilizer treatments than from corresponding treatments in which the plant food was added from solid sources.

Results from a study with second stubble of C. P. 36/105 on Jeanerette loam at Alice "B" Plantation are shown in Table 9. The 120-40-60 treatment in which the application of nitrogen was split gave the highest yields of cane, 35.89 tons, and sugar, 6336 pounds. This yield of cane was significantly better than all other treatments; however, the yield of sugar was not statistically better than from the 100-40-60 split

TABLE 5

Effect of fertilizers on the yield of sugar cane and sugar on Richland silt loam at Young's Industries, Inc., Youngsville, Lafayette Parish, Louisiana, 1955.

Experiment conducted by David S. Byrnside, Jr., Louisiana Agricultural Experiment Station in cooperation with Young's Industries, Inc., and S. J. Bowles, County Agent.

Pounds per acre $N-P_2O_5-K_2O$	Tons cane per acre	Normal Juice			Pounds sugar per acre
		Brix	Sucrose	Purity	
0-0-0	12.27	16.13	12.13	75.27	1946
60-0-0	16.37	15.00	10.69	71.33	2251
60-0-60	17.85	15.53	11.41	73.54	2667
60-40-60	20.90	15.69	11.89	75.94	3274
80-0-0	19.55	15.53	11.22	72.21	2812
80-0-0[1]	24.50	15.31	11.00	71.93	3500
80-0-60	23.82	15.04	10.96	73.02	3381
80-40-60	26.10	15.91	11.91	75.02	4101
80-40-60[1]	29.19	15.95	11.76	73.60	4512
100-0-0	22.80	15.41	11.01	71.51	3245
100-0-0[2]	25.08	15.54	10.97	70.75	3706
100-0-60	26.86	15.02	10.78	71.87	3731
100-40-60	28.17	16.09	12.00	74.60	4467
100-40-60[2]	30.67	15.36	10.87	70.81	4301

[1] 40 pounds of nitrogen as anhydrous ammonia applied on April 5 and 40 pounds of nitrogen as anhydrous ammonia applied on June 20, 1955.

[2] 50 pounds of nitrogen as anhydrous ammonia applied on April 5 and 50 pounds of nitrogen as anhydrous ammonia applied on June 20, 1955.

Variety: Co. 290, 1st stubble; fertilized on April 5 and June 20, 1955; harvested December 6-7, 1955.

Lease difference necessary for significance was 1.64 tons of cane and 500 pounds of sugar.

Juice analyses by Youngsville Factory, Youngsville, La.

treatment. There was a response to applied potassium at all levels of nitrogen when phosphorus was not added and at the one hundred and one hundred twenty pound levels of nitrogen this response was significant. All treatments in which the applications of nitrogen were split yielded more cane and sugar than did corresponding non-split treatments. Further, the split nitrogen treatments containing phosphorus and potassium yielded significantly more cane than did corresponding split treatments containing only nitrogen. The soil at this location is alkaline. Apparently there was some loss of nitrogen from the first application which unbalanced the effects from the minerals, particularly potassium, when the second application of nitrogen was not added. A soil analysis supported the fact that the exchangeable potassium, 64 p. p. m., was low.

The Effects of Additions of Magnesium to Stubble Cane

The results from treatments containing sixty pounds per acre of MgO as dolomitic lime or thirty pounds of MgO as Sul-Po-Mag and similar treatments without magnesium applied to second stubble of C. P. 36/13 on Richland silt loam at Billeaud Plantation are shown in Table 10. The application of magnesium in either form did not increase the yield of sugar cane. The highest yields of cane, 24.76 tons, and sugar, 4348 pounds, were received from the 120-0-60 treatment. Due to the overall grassy condition which prevailed in most plots, yields were erratic and the experimental error so high that significant differences between treatments were not obtained. A soil analysis showed that both the exchangeable potassium and easily sol-

TABLE 6

Effect of fertilizers on the yield of sugar cane and sugar on Mhoon silt loam at Pecan Tree Plantation, Mathews, Lafourche Parish, Louisiana, 1955.

Experiment conducted by David S. Byrnside, Jr., Louisiana Agricultural Experiment Station in cooperation with the South Coast Corporation (Georgia Division) and C. J. Arceneaux, County Agent.

Pound per acre $N-P_2O_5-K_2O$	Tons cane per acre	Normal Juice			Pounds sugar per acre
		Brix	Sucrose	Purity	
0-0-0	19.87	16.35	12.98	79.37	3454
80-0-0	27.79	16.27	12.92	79.42	4820
80-0-0[1]	30.28	16.38	13.12	80.40	5333
120-0-0	27.91	16.29	12.83	78.73	4788
120-0-0[2]	32.71	16.25	13.00	80.00	5701
160-0-0	29.17	15.68	12.18	77.68	4705
160-0-0[3]	30.03	16.42	13.02	81.24	5242

[1] 40 pounds of nitrogen as aqua ammonia applied on March 21 and 40 pounds of nitrogen as aqua ammonia applied on May 11, 1955.

[2] 60 pounds of nitrogen as aqua ammonia applied on March 21 and 60 pounds of nitrogen as aqua ammonia applied on May 11, 1955.

[3] 80 pounds of nitrogen as aqua ammonia applied on March 21 and 80 pounds of nitrogen as aqua ammonia applied on May 11, 1955.

Variety: C. P. 44/101, 1st stubble; fertilized on March 21 and May 11, 1955; harvested November 14-15, 1955.

Least difference necessary for significance was 3.72 tons of cane and 800 pounds of sugar.

Juice analyses by the Georgia Factory, Mathews, La.

uble phosphorus were low. The high experimental error did not permit the measurement of responses to phosphorus and potassium.

General Remarks

The work with fertilizers on sugar cane in 1955 shows greater responses to the higher rates of nitrogen, higher responses to minerals from stubble cane and the need for further explanation of the responses from splitting the application of nitrogen.

Fertilizer Recommendations

Fertilizer Recommendations for sugar cane were prepared jointly by the Louisiana Agricultural Experiment Station and the U. S. Department of Agriculture Sugar Station, Houma, Louisiana.

To plant cane on light and medium textured soils apply 40 to 60 pounds of nitrogen per acre by use of any of the common carriers. On heavy textured soils apply 60 to 80 pounds of nitrogen. Where the green weight of legumes turned under ahead of planting cane is as much as 8 to 10 tons per acre, it is not necessary to fertilize plant cane. In most cases the yields of legumes are not this high.

On stubble cane on the medium textured to heavy alluvial soils of the Mississippi or Red River bottoms, use 80 to 100 pounds of nitrogen per acre. Where known deficiencies of phosphorus and potassium exist, which is usually in the very fine sandy loam and silt loam types, 25

TABLE 7

Effect of fertilizers on the yield of sugar cane and sugar on Mhoon loam at Little Texas Plantation, Napoleonville, Assumption Parish, Louisiana, 1955.

Experiment conducted by David S. Byrnside, Jr., Louisiana Agricultural Experiment Station in cooperation with Milliken & Farwell, Inc., and E. J. Lousteau, County Agent.

Pounds per acre $N-P_2O_5-K_2O$	Tons cane per acre	Normal Juice			Pounds sugar per acre
		Brix	Sucrose	Purity	
0-0-0	21.43	15.91	11.85	74.46	3335
60-0-0	26.20	16.08	11.96	74.31	4222
60-0-60	25.57	16.23	12.61	77.72	4296
60-40-60	26.40	16.15	12.18	75.44	4261
80-0-0	27.97	15.69	11.64	74.18	4275
80-0-0[1]	26.50	16.15	12.30	76.10	4320
80-0-60	28.73	15.42	11.56	74.95	4337
80-40-60	27.98	15.51	11.64	75.02	4283
80-40-60[1]	28.46	16.17	12.51	77.33	4595
100-0-0	27.73	15.49	11.40	73.54	4109
100-0-0-FM[3]	27.14	15.81	11.84	74.87	4224
100-0-0[2]	31.50	15.54	11.49	73.77	4736
100-0-60	28.24	16.05	12.20	76.05	4568
100-0-60-FM[3]	28.27	15.69	11.65	74.26	4327
100-40-60	28.98	15.94	12.03	75.43	4606
100-40-60-FM[3]	28.97	15.99	11.95	74.73	4568
100-40-60[2]	29.90	15.53	11.38	73.28	4450

[1] 40 pounds of nitrogen as anhydrous ammonia applied on April 25 and 40 pounds of nitrogen as anhydrous ammonia applied on May 17, 1955.

[2] 50 pounds of nitrogen as anhydrous ammonia applied on April 25 and 50 pounds of nitrogen as anhydrous ammonia applied on May 17, 1955.

[3] Flo-Mix is a commercial liquid fertilizer.

Variety: C. P. 36/105, 1st stubble; fertilized on April 25 and May 17, 1955; harvested October 31 to November 2, 1955.

Least difference necessary for significance was 2.66 tons of cane and 454 pounds of sugar.

Juice analyses by Little Texas Factory, Napoleonville, La.

to 40 pounds of P_2O_5 and 40 to 60 pounds of K_2O should be applied in addition to nitrogen. In some cases the plant food may be supplied by the application of 500 pounds of 6-8-12, 10-5-10 and 0-10-20 per acre supplemented with 50 to 80 pounds of nitrogen from either solid or liquid materials.

To stubble cane on the medium to light textured soils of the Pleistocene Mississippi terraces, which areas are largely west of the Teche and include the Richland, Olivier and Iberia series, apply 80 to 100 pounds of N, 25 to 40 pounds of P_2O_5 and 40 to 60 pounds of K_2O.

Nitrogen may be supplied from any commonly available solid or liquid materials. Where anhydrous ammonia is being used to supply nitrogen, minerals may be applied either before the ammonia or in the same operation from hoppers mounted on the sides of the tractor. The practice of splitting applications of nitrogen to stubble cane on medium textured soils where as much as 80 or more pounds of nitrogen is applied is proving profitable in some cases. Half of the nitrogen can be applied four inches deep in the middle at the last cultivation. Ammonia and other highly soluble carriers of nitrogen are especially adaptable to split applications.

Over a period of years the highest efficiency in extra production of sugar cane from fertilizer nitrogen

TABLE 8

Effect of fertilizers on the yield of sugar cane and sugar on Commerce very fine sandy loam at Smithfield Plantation, Port Allen, West Baton Rouge Parish, Louisiana, 1955.

Experiment conducted by David S. Byrnside, Jr., Louisiana Agricultural Experiment Station in cooperation with Milliken & Farwell, Inc., and H. A. Webb, County Agent.

Pounds per acre N-P_2O_5-K_2O	Tons cane per acre	Normal Juice			Pounds sugar per acre
		Brix	Sucrose	Purity	
0-0-0	20.32	15.63	11.34	72.56	3023
60-0-0	26.22	16.20	11.88	73.37	4106
60-0-60	26.80	16.16	12.10	74.85	4277
60-40-60	23.78	15.54	11.49	74.08	3594
80-0-0	25.05	15.66	11.58	73.92	3808
80-0-0[1]	26.71	16.31	11.85	72.57	4163
80-0-60	28.90	15.49	11.59	74.79	4408
80-40-60	28.40	15.97	11.99	74.97	4482
80-40-60[1]	28.29	16.54	12.28	74.20	4581
100-0-0	25.24	15.84	11.55	72.83	3705
100-0-0-FM[3]	25.15	15.22	11.01	72.39	3590
100-0-0[2]	26.79	15.60	11.26	72.13	3904
100-0-60	29.16	16.51	12.89	78.22	5031
100-0-60-FM[3]	24.67	15.83	11.45	72.30	3705
100-40-60	28.40	15.22	10.75	70.64	3925
100-40-60-FM[3]	26.12	15.39	11.12	72.17	3778
100-40-60[2]	30.02	14.95	10.42	69.58	3970

[1] 40 pounds of nitrogen as aqua ammonia applied on April 26 and 40 pounds of nitrogen as aqua ammonia applied on May 17, 1955.

[2] 50 pounds of nitrogen as aqua ammonia applied on April 26 and 50 pounds of nitrogen as aqua ammonia applied on May 17, 1955.

[3] Flo-Mix is a commercial liquid fertilizer.

Variety: C. P. 36/105, 1st stubble; fertilized April 26 and May 17, 1955; harvested November 14-16, 1955.

Least difference necessary for significance was 3.33 tons of cane and 676 pounds of sugar.

Juice analyses by Smithfield Factory, Chamberlain, La.

has been one ton of cane for each increment of 6 pounds of nitrogen. Where phosphate and potash were needed for sugar cane, the addition of 40 pounds of P_2O_5 and 60 pounds of K_2O per acre increased the yield of cane 5 tons per acre above the use of 60 to 100 pounds of nitrogen alone.

TABLE 9

Effect of fertilizers on the yield of sugar cane and sugar on Jeanerette loam at Alice "B" Plantation, Franklin, St. Mary Parish, Louisiana, 1955.

Experiment conducted by David S. Byrnside, Jr., Louisiana Agricultural Experiment Station in cooperation with Sunrise Planting Corp., and P. J. deGravelles, County Agent.

Pounds per acre N-P_2O_5-K_2O	Tons cane per acre	Normal Juice			Pounds sugar per acre
		Brix	Sucrose	Purity	
0-0-0	16.53	16.90	13.18	77.96	2919
80-0-0	21.33	16.42	12.73	77.36	3631
80-0-0[1]	24.57	17.18	13.51	78.58	4351
80-0-60	22.37	16.43	12.68	77.16	3779
80-40-60	18.34	16.99	13.36	78.61	3300
80-40-60[1]	28.39	16.79	12.99	77.31	4939
100-0-0	25.79	16.83	12.97	76.87	4474
100-0-0[2]	29.57	17.02	13.13	77.07	5209
100-0-60	30.21	16.37	12.62	77.07	5081
100-40-60	20.11	16.71	12.69	75.88	3420
100-40-60[2]	33.71	16.89	12.97	76.78	5856
120-0-0	27.24	16.09	12.23	75.93	4415
120-0-0[3]	31.48	16.27	12.49	76.67	5227
120-0-60	32.74	16.31	12.39	75.81	5379
120-40-60	21.03	17.09	13.26	77.60	3751
120-40-60[3]	35.89	16.99	13.17	77.43	6336

[1] 40 pounds of nitrogen as anhydrous ammonia applied on April 27 and 40 pounds of nitrogen as anhydrous ammonia applied on June 9 and 21, 1955.

[2] 50 pounds of nitrogen as anhydrous ammonia applied on April 27 and 50 pounds of nitrogen as anhydrous ammonia applied on June 9 and 21, 1955.

[3] 60 pounds of nitrogen as anhydrous ammonia applied on April 27 and 60 pounds of nitrogen as anhydrous ammonia applied on June 9 and 21, 1955.

Variety: C. P. 36/105, 2nd stubble; fertilizer on April 27, June 9 and 21, 1955; harvested on November 23-25, 1955.

Least difference necessary for significance was 1.19 tons of cane and 634 pounds of sugar.

Juice analyses by St. Mary Sugar Cooperative, Franklin, La.

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TABLE 10

Effect of fertilizers on the yield of sugar cane and sugar on Richland silt loam at Billeaud Plantation, Broussard, Lafayette Parish, Louisiana, 1955.

Experiment conducted by David S. Byrnside, Jr., Louisiana Agricultural Experiment Station in cooperation with Billeaud Sugar Factory and S. J. Bowles, County Agent.

Pounds per acre N-P_2O_5-K_2O-MgO	Tons cane per acre	Normal Juice			Pounds sugar per acre
		Brix	Sucrose	Purity	
0-0-0	14.93	15.79	12.58	79.67	2498
80-0-0	19.40	16.78	13.37	79.64	3443
80-0-60	18.59	15.73	12.22	77.59	2977
80-40-60	18.47	16.11	12.73	79.02	3134
80-40-60-30[1]	20.24	17.02	13.66	80.25	3722
80-40-60-60[2]	18.72	16.59	13.18	79.43	2947
100-0-0	22.70	16.87	13.31	78.90	4071
100-0-60	17.82	16.24	12.78	78.65	3075
100-40-60	17.11	16.27	12.91	79.24	3056
100-40-60-30[1]	18.13	16.14	12.72	78.68	3153
100-40-60-60[2]	17.48	16.46	12.95	78.72	3013
120-0-0	20.48	16.80	13.11	77.94	3600
120-0-60	24.76	16.33	13.04	79.76	4348
120-40-60	18.85	16.36	13.05	79.77	3303
120-40-60-30[1]	19.12	16.18	12.73	78.69	3231
120-40-60-60[2]	16.67	15.99	12.55	78.45	2781

[1] 30 pounds of MgO as Sul-Po-Mag. This is a commercial product analyzing approximately 22% K_2O and 18% MgO.

[2] 60 pounds of MgO as dolomitic lime.

Variety: C. P. 36/13, 2nd stubble; fertilized on April 20, 1955; harvested November 11-12, 1955. Juice analyses by Billeaud Sugar Factory, Broussard, La.

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OUTFIELD SUGARCANE VARIETY TRIALS--1955

By T. J. Stafford, Assistant Agronomist, C. B. Gouaux, Agronomist Emeritus Retired, Department of Outfield Sugars, Louisiana Agricultural Experiment Station

During the milling season 22 experiments [1] were harvested and analyzed in an attempt to obtain additional information as to the relative commercial value of different varieties of sugar cane when grown under various environmental conditions in the Louisiana sugar belt. These experiments were conducted in cooperation with producers and county agents at 7 locations with 6 important soil types represented. Varieties now grown on a commercial scale as well as some experimental varieties were compared in each experiment. Each variety in all experiments was grown in a large single plot. Cultural practices were according to plantation practice. For yield measurements all the cane was cut and the trash burned. The cane was then hauled and weighed using plantation and factory equipment. A ten stalk sample was taken at random from each plot for juice analyses. Sugar per ton estimates were calculated according to the simplified Winter-Carp formula. Standard tons of cane per acre were calculated according to the "Fair Price Determination For The 1955-56 Crop." [2]

The Bayou Teche-Lafayette Area

Variety trials were conducted on Baldwin silty clay loam at Katy Plantation near Franklin in St. Mary Parish and on Richland silt loam at Billeaud-Reaux Plantation near Broussard in Lafayette Parish and at Young's Industries Plantation near Youngsville in Lafayette Parish. Average yields for the varieties in plant cane, first stubble and second stubble are presented in Table 1. Also the overall averages for 1955 and for the previous 5 years are given for comparison. The varieties are arranged according to the overall average yields for 1955 expressed in standard tons per acre. The 1955 average yields for C. P. 29-116, C. P. 36-13, C. P. 36-105 and C. P. 43-47 are based on unequal numbers of tests and therefore cannot be compared on an equal basis.

Present data for N. Co. 310, C. P. 48-103 and C. P. 47-193 are limited but promising. N. Co. 310 has been the leading variety in tons of cane per acre, but it lodges readily, is susceptible to mosaic and frequently matures relatively late. C. P. 48-103 has been the best of all varieties in sugar-per-ton of cane. Average yields of cane per acre for C. P. 48-103 have been somewhat less than the average yields for C. P. 44-101 but this disadvantage has been compensated for by high sugar per ton of cane. C. P. 47-193 has been slightly inferior to C. P. 44-101 in sugar per acre, however, sugar per ton of cane for C. P. 47-193 has been higher as an average of all tests.

More conclusive data are available for varieties listed in Table 1 other than N. Co. 310, C. P. 48-103 and C. P. 47-193. Based on averages for several years C. P. 44-101 has been the most valuable for general planting. C. P. 36-105 has been inferior to C. P. 44-101 in the Bayou Teche-Lafayette area. Although C. P. 36-13, C. P. 43-47 and C. P. 44-155 have not produced as well as C. P. 44-101, they can be satisfactorily grown on productive soils for early harvesting. Co. 290, C. P. 29-116 and C. P. 44-154 have been relatively productive in tons of cane per acre but these varieties have been low in sugar per ton of cane and have lodged severely.

The Mississippi River-Bayou Lafourche Area

Sugar cane variety trials were conducted at Addition Plantation near Brusly in West Baton Rouge Parish on Mhoon very fine sandy loam and on Sharkey clay. At Glenwood Plantation near Napoleonville in Assumption Parish the varieties were plant-

TABLE 1
Average yields for sugarcane varieties grown on light soils in the Bayou Teche-Lafayette area. (Averages for 3 tests)*

Variety	Crop year	Average 1955 Net T/A	Sugar/T (lbs.)	Sugar/A (lbs.)	Std. T/A	Average 1950-54 Net T/A	Std. T/A	(N)
N. Co. 310	Plant cane	30.49	157.65	4742	29.14	25.96	32.53	(5)
	First stubble	31.49	162.92	5130	32.14	31.70	36.02	(1)
	Second stubble	30.18	190.91	5762	36.13	-----	-----	
	Average	30.72	170.49	5211	32.47	-----	-----	
C. P. 48-103	Plant cane	27.01	204.02	5511	34.24	23.42	30.92	(5)
	First stubble	27.51	191.23	5261	31.11	22.55	26.32	(1)
	Second stubble	23.43	200.06	4762	29.75	-----	-----	
	Average	25.98	198.44	5178	31.70	-----	-----	
C. P. 44-101	Plant cane	27.04	167.61	4532	28.39	23.69	27.16	(15)
	First stubble	28.14	165.25	4650	29.27	29.80	34.39	(15)
	Second stubble	29.97	170.28	5133	32.22	27.84	32.47	(8)
	Average	28.38	167.71	4772	29.96	27.11	31.34	(38)
C. P. 47-193	Plant cane	23.70	174.19	4128	25.58	23.42	27.15	(6)
	First stubble	29.36	176.67	5187	30.38	27.36	29.79	(2)
	Second stubble	24.12	171.61	4139	26.02	-----	-----	
	Average	25.73	174.16	4481	27.33	-----	-----	
C. P. 44-154	Plant cane	28.04	142.36	3992	23.20	24.99	25.38	(15)
	First stubble	30.68	143.80	4412	27.69	31.88	30.77	(12)
	Second stubble	30.59	146.86	4492	27.93	27.74	29.42	(6)
	Average	29.77	144.34	4297	26.27	27.97	28.53	(33)
C. P. 44-155	Plant cane	23.64	177.27	4191	26.05	19.33	23.12	(14)
	First stubble	21.33	175.99	3754	23.60	24.54	29.42	(15)
	Second stubble	20.00	186.34	3727	23.47	20.72	26.11	(8)
	Average	21.66	179.87	3896	24.37	21.53	26.22	(37)
Co. 290	Plant cane	29.24	132.96	3888	21.82	26.26	23.89	(15)
	First stubble	27.27	133.59	3643	21.38	29.76	27.70	(14)
	Second stubble	22.01	146.50	3224	20.24	22.99	20.85	(8)
	Average	26.17	137.68	3603	21.15	26.34	24.15	(37)
C. P. 29-116**	Plant cane	34.09	134.16	4574	25.95	26.89	24.15	(10)
	First stubble	32.54	121.83	3964	22.16	31.33	28.70	(10)
	Second stubble	30.76	129.39	3980	23.33	22.51	21.13	(4)
	Average	32.46	128.46	4170	23.81	26.91	24.66	(24)
C. P. 36-13**	Plant cane	30.72	174.81	5370	33.66	24.49	27.29	(14)
	First stubble	26.44	163.48	4322	27.09	25.90	30.98	(14)
	Second stubble	20.93	191.29	4004	25.06	18.22	21.07	(7)
	Average	26.03	176.53	4595	28.60	22.87	26.45	(35)
C. P. 36-105**	Plant cane	26.45	159.49	4219	26.51	19.36	20.11	(12)
	First stubble	28.36	168.59	4781	30.12	23.84	26.89	(13)
	Second stubble	20.61	169.77	3499	21.91	18.58	21.76	(7)
	Average	25.14	165.95	4172	26.18	20.59	22.92	(32)
C. P. 43-47**	Plant cane	24.55	194.98	4787	29.86	21.28	23.84	(11)
	First stubble	24.09	163.60	3941	24.76	23.65	27.53	(12)
	Second stubble	18.96	176.85	3353	21.15	22.42	25.32	(6)
	Average	22.53	178.48	4021	25.26	22.45	25.56	(29)

* Billeaud, Caffery and Youngsville test fields.
** 1955 averages based on relatively few tests.

ed on Mhoon silt loam. The third group of tests was located at the Godchaux Plantation near Reserve in St. John Parish on Mhoon very fine sandy loam.

Average yields for the varieties in the 3 light soil (Mhoon) tests are presented in Table 2. Varieties present in all 1955 tests are arranged according to overall average yields for 1955 expressed in standard tons per acre. The 1955 averages for C. P. 43-47 are based on a smaller number of tests and cannot be compared with other varieties on an equal basis. Averages for the 5 year period 1950-1954 are shown for comparative purposes.

Although C. P. 48-103, C. P. 47-193 and N. Co. 310 have been in the test fields for relatively few years they have shown considerable promise. C. P. 48-103 has been outstanding in sugar per ton of cane and is very promising as an early maturing variety. On light soils C. P. 47-193 has been slightly inferior to C. P. 44-101 in tons of cane per acre but C. P. 47-193 has been higher in sugar per ton of cane and is apparently earlier

TABLE 2

Average yields for sugarcane varieties grown on light soils in the Mississippi River-Bayou Lafourche area. (Averages for 3 tests)*

		Average 1955				Average 1950-54		
Variety	Crop year	Net T/A	Sugar/T (lbs.)	Sugar/A (lbs.)	Std. T/A	Net T/A	Std. T/A	(N)
C. P. 48-103	Plant cane	29.87	192.62	5754	36.09	31.46	38.08	(6)
	First stubble	26.75	198.68	5314	33.17	28.37	35.84	(5)
	Second stubble	25.55	194.87	4979	31.13	-----	-----	
	Average	27.39	195.39	5352	33.46	-----	-----	
C. P. 47-193	Plant cane	27.18	161.39	4387	27.57	31.30	33.58	(9)
	First stubble	27.18	180.08	4895	30.76	29.42	33.10	(7)
	Second stubble	28.70	173.39	4976	31.18	21.85	26.38	(4)
	Average	27.69	171.62	4752	29.84	27.52	31.02	(20)
C. P. 36-105	Plant cane	30.65	160.33	4915	30.84	31.34	33.64	(15)
	First stubble	27.70	165.46	4583	28.84	26.70	29.40	(15)
	Second stubble	25.25	165.15	4170	26.67	21.72	24.25	(14)
	Average	27.87	163.65	4561	28.78	26.59	29.10	(44)
N. Co. 310	Plant cane	32.56	156.41	5093	32.06	37.61	44.14	(6)
	First stubble	26.10	145.02	3785	23.40	29.46	30.55	(5)
	Second stubble	29.59	162.47	4807	29.66	-----	-----	
	Average	29.42	154.63	4549	28.37	-----	-----	
C. P. 44-101	Plant cane	27.95	158.21	4422	27.72	32.26	33.46	(15)
	First stubble	29.47	158.64	4675	29.22	29.50	30.34	(14)
	Second stubble	28.38	159.51	4527	28.04	27.18	28.51	(14)
	Average	28.60	158.79	4541	28.33	29.65	30.77	(43)
C. P. 44-155	Plant cane	27.23	165.55	4508	28.80	28.99	31.11	(15)
	First stubble	23.42	185.35	4341	27.45	24.32	26.60	(14)
	Second stubble	24.37	172.39	4201	26.30	22.30	25.57	(14)
	Average	25.10	174.43	4362	27.36	25.20	27.76	(43)
C. P. 43-47**	Plant cane	31.18	172.66	5384	33.96	26.74	29.42	(13)
	First stubble	24.56	183.08	4496	28.11	24.37	27.04	(12)
	Second stubble	27.10	152.98	4146	26.13	22.92	25.68	(14)
	Average	27.61	169.57	4682	29.40	24.68	27.38	(39)

* Cinclare, Glenwood and Reserve test fields.
** 1955 averages based on relatively few tests.

in maturity. N. Co. 310 has produced relatively high yields of cane per acre but has been extremely variable in stubble. This variety was severely lodged in practically all light soil tests in 1955.

C. P. 36-105, C. P. 43-47, C. P. 44-101 and C. P. 44-155 have been grown in the test fields for a number of years and the average yields for these varieties are considered to be sufficiently reliable for comparisons. Although C. P. 44-101 has apparently been the most productive, C. P. 36-105 has been a close second on light soils in this area. C. P. 36-105 has been slightly higher in sucrose and apparently earlier in maturity than C. P. 44-101. C. P. 36-105 has not done as well as C. P. 44-101 on heavy soils, however. For early harvesting C. P. 43-47 and C. P. 44-155 have been the best varieties. These varieties have not yielded as well and are not as widely adapted as C. P. 44-101, but are earlier in maturity.

Average yields for varieties grown on Sharkey clay are presented in Table 3. Although the data are not conclusive, C. P. 47-193 has been the best variety on this heavy soil in recent years. This variety has been considerably better than C. P. 44-101 in tons of cane per acre and in sugar-per-ton of cane. C. P. 47-193 offers considerable promise as a relatively early high yielding cane for the heavy soils where such a variety is needed. N. Co. 310, in comparatively few tests as of this date, has been very erratic in performance. The greatest surprise of the 1955 season was the outstanding yield of C. P. 48-103 along with its high sucrose in plant cane on Sharkey clay. Its value as a heavy soil variety will be determined in future experiments.

C. P. 34-120, C. P. 36-105, C. P. 44-101 and C. P. 44-155 have been

TABLE 3
Yields for sugarcane varieties grown on Sharkey clay at Addition Plantation, Brusly, La. (Cinclare heavy soil test field).

		Average 1955				Average 1950-54		
Variety	Crop year	Net T/A	Sugar/T (lbs.)	Sugar/A (lbs.)	Std. T/A	Net T/A	Std. T/A	(N)
C. P. 47-193	Plant cane	28.76	173.79	4998	31.29	28.27	31.80	(3)
	First stubble	26.14	169.07	4419	27.67	24.65	30.49	(2)
	Average	27.45	171.43	4706	29.48	26.46	31.15	(5)
C. P. 44-155	Plant cane	22.38	194.49	4353	27.21	22.01	24.85	(4)
	First stubble	17.99	185.58	3339	20.89	19.99	22.73	(4)
	Average	20.19	190.04	3837	24.05	21.00	23.79	(8)
C. P. 36-105	Plant cane	24.11	162.44	3916	24.58	20.33	20.15	(5)
	First stubble	21.28	174.78	3719	23.29	18.12	19.47	(5)
	Average	23.70	168.61	3818	23.94	19.23	19.81	(10)
N. Co. 310	Plant cane	26.88	150.42	4043	25.40	29.54	35.13	(1)
	First stubble	20.24	167.35	3387	21.38	-----	-----	
	Average	23.56	158.89	3743	23.39	-----	-----	
C. P. 44-101	Plant cane	25.67	154.49	3966	24.98	22.82	21.67	(5)
	First stubble	19.60	167.31	3279	20.81	25.96	26.95	(5)
	Average	22.64	160.90	3623	22.90	24.39	24.31	(10)
C. P. 34-120	Plant cane	21.02	174.33	3664	23.06	17.71	18.23	(4)
	First stubble	23.39	148.65	3477	21.76	18.35	19.11	(4)
	Average	22.21	161.49	3587	22.41	18.03	18.67	(8)
C. P. 48-103	Plant cane	33.67	187.86	6325	39.46	-----	-----	

more thoroughly tested on Sharkey clay. Of these 4 varieties C. P. 44-101 has apparently been the most valuable on this heavy soil in this area.

The Red River Area

Varieties were compared at only one location in the Red River area. These tests were conducted on Yahola very fine sandy loam at Shirley Plantation near Bunkie, in Avoyelles Parish. Yields for varieties in the Shirley test field are presented in Table 4 with the varieties arranged according to average production of sugar-per-acre in 1955. Apparently due to extremely heavy borer and Johnson Grass infestations, yields and sucrose analyses were relatively low. In most cases the sucrose was in the salvage cane category. For this reason standard tons per acre for 1955 are not given. Because of the aforementioned difficulties the data for 1955 are probably of little value but are presented herein as a record.

Based on preliminary data N. Co. 310 and C. P. 47-193 have shown considerable promise for the Red River area. C. P. 48-103 has not been so promising in the Shirley test field when results in other areas are considered. Yields and sucrose analyses have been variable. It has exceeded C. P. 44-101 as an average of all tests in which both varieties were present, however.

Of the more thoroughly tested varieties C. P. 36-105 and C. P. 44-101 have been the best. Because of its better resistance to the sugar cane borer C. P. 36-105 may be preferable

TABLE 4
Yields for sugarcane varieties grown on Yahola very fine sandy loam at Shirley Plantation, Bunkie, La. (Shirley test field).

		Average 1955				Average 1950-54		
Variety	Crop year	Net T/A	Sugar/T (lbs.)	Sugar/A (lbs.)	Std. T/A	Net T/A	Std. T/A	(N)
N. Co. 310	Plant cane	24.98	123.94	3096		22.75	21.56	(2)
	First stubble	15.30	106.45	1629		26.80	31.97	(2)
	Second stubble	18.84	73.01	1376		-----	-----	
	Average	19.71	101.13	1993		-----	-----	
C. P. 47-193	Plant cane	14.86	113.27	1683		18.97	19.81	(2)
	First stubble	10.73	107.49	1153		26.58	35.73	(1)
	Second stubble	22.46	110.80	2489		-----	-----	
	Average	16.02	110.52	1771		-----	-----	
C. P. 44-101	Plant cane	16.94	115.80	1962		19.41	18.26	(5)
	First stubble	6.98	110.61	772		21.28	22.75	(5)
	Second stubble	12.23	109.18	1346		15.09	17.81	(5)
	Average	12.08	111.86	1351		18.59	19.61	(15)
C. P. 36-105	Plant cane	20.77	124.99	2596		21.98	19.81	(5)
	First stubble	4.98	114.99	573		21.43	21.51	(5)
	Second stubble	5.72	111.01	635		14.32	16.17	(5)
	Average	10.49	117.00	1227		19.24	19.16	(15)
C. P. 44-155	First stubble	-----	-----	-----		17.31	17.87	(5)
	First stubble	7.88	132.81	1047		12.15	13.66	(4)
	Second stubble	-----	-----	-----		12.90	14.63	(5)
	Average	-----	-----	-----		14.12	15.39	(14)
C. P. 48-103	Plant cane	-----	-----	-----		20.98	21.38	(3)
	First stubble	10.24	153.46	1571		21.91	28.67	(2)
	Second stubble	12.34	124.32	1534		13.82	21.86	(1)
	Average	-----	-----	-----		18.90	23.97	(6)

for the Red River area.

1955 Plantings

Variety trials were planted jointly with personnel of the U. S. D. A. Sugarcane field station, according to a recent agreement between the American Sugarcane League, L. S. U. Agricultural Experiment Station and the U. S. D. A. Sugarcane Field Station. All tests were planted in a randomized complete block experimental design with 4 replications. The Caffery test field was discontinued under this agreement.

Eight promising experimental varieties were introduced to the test fields in 1955 and planted on a small plot increase basis. Also 12 varieties that have previously been released were planted in a similar manner. Seed cane for 17 of these varieties was heat treated for control of Stunting disease and furnished by the L. S. U. Sugar Experiment Station. Seed cane for the other 3 varieties was heat treated and furnished by Smithfield Plantation.

In cooperation with the L. S. U. Agricultural Engineering Department an experiment designed to study the yields of 4 varieties of sugarcane when grown on rows of 2 different widths was planted in 1955 at Shirley Plantation.

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Cinclare Central Factory and Addition Plantation, Cinclare, La.

Glenwood Plantation and Glenwood Cooperative, Inc., Napoleonville, La.

Godchaux Sugars, Inc., Reserve, La.

Haas Investment Co. (Shirley Plantation), Bunkie, La.

Katy Plantation and Columbia Sugar Factory, Franklin, La.

Louisiana State University, Agricultural Experiment Station, Baton Rouge, La.

Louisiana State University, Agricultural Extension Service, Baton Rouge, La.

Meeker Sugar Cooperative, Inc., Meeker, La.

United States Department of Agriculture, Sugarcane Field Station, Houma, La.

Young's Industries, Inc., Youngsville, La.

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[1] All plant cane experiments were planted in 1954 by D. S. Byrneside, Jr., Department of Agronomy and C. B. Gouaux, Agronomist Retired. Stubble experiments had been planted by C. B. Gouaux in 1952 and 1953.

[2] Sugar Bulletin, Vol. 34—No. 2, Page 21, October 1955.

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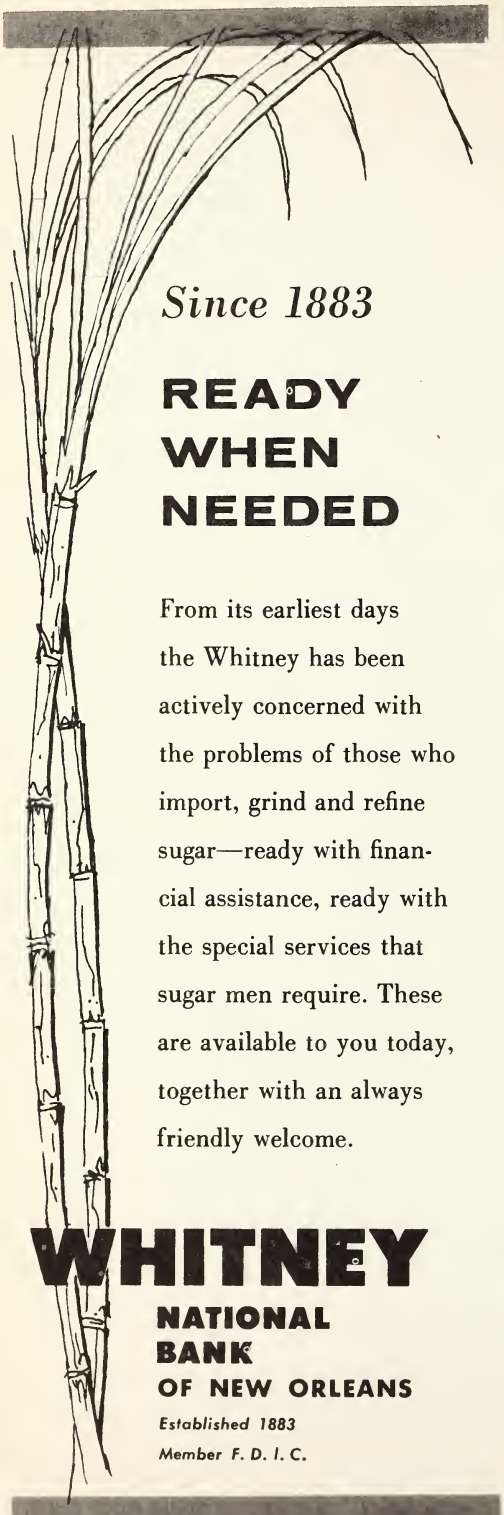
1956 MARKETING ALLOTMENTS FOR MAINLAND CANE SUGAR PROCESSORS

On August 10th the U. S. Department of Agriculture announced revision in the allotments to Mainland Cane Sugar Processors. The revised allotments, total 580,025 short tons, raw value, as established by Sugar Regulation 811, Amendment 4.

The amendment making this revision also restricts the marketings by each processor during the first eleven months of 1956 to 95 percent of his allotment. This is done to permit lowering allotments, in event of a reduction in quota, on the same tonnage basis that they are increased.

The new allotments to individual processors, which will be effective when S.R. 814.23, Amendment 2, is published in the Federal Register, are as follows:

Processors	Allotments (short tons, raw value)
Albania Sugar Company	6,501
Alice C. Plantation & Refinery, Inc.	7,638
Alma Plantation, Ltd.	7,348
J. Aron & Company, Inc.	12,973
Billeaud Sugar Factory	7,742
Breaux Bridge Sugar Coop., Inc.	7,098
J. M. Burguieres Co., Ltd., The	6,107
Burton-Sutton Oil Co., Inc.	6,530
Caire & Graugnard	3,218
Caldwell Sugars Coop., Inc.	11,848
Catherine Sugar Company, Inc.	6,785
Columbia Sugar Company	5,196
Cora-Texas Manufacturing Co., Inc.	2,360
Dugas & LeBlanc, Ltd.	10,926
Duhe & Bourgeois Sugar Co., Inc.	8,363
Erath Sugar Company, Ltd.	4,732
Evan Hall Sugar Coop., Inc.	20,831
Evangeline Pepper & Food Products, Inc.	4,848
Fellsmere Sugar Producers Assoc.	8,264
Frisco Cane Co., Inc.	881
Glenwood Coop., Inc.	13,767
Godchaux Sugars, Inc.	33,960
Helvetia Sugar Coop., Inc.	6,733
Iberia Sugar Coop., Inc.	12,816
LaFourche Sugar Company	14,632
Harry L. Laws & Company, Inc.	9,540
Levert-St. John, Inc.	8,484
Loisel Sugar Company, Inc.	5,272
Louisiana State Penitentiary	3,630
Lula Factory, Inc.	11,233
Meeker Sugar Coop., Inc.	3,364
Milliken & Farwell, Inc.	12,086
Okeelanta Sugar Refinery, Inc.	11,703
M. A. Patout & Son, Ltd.	7,794
Poplar Grove Pltg. & Ref. Co., Inc.	6,170
St. James Sugar Coop., Inc.	12,091
St. Mary Sugar Coop., Inc.	12,561
Slack Bros., Inc.	3,132
Smedes Bros., Inc.	4,483
South Coast Corp., The	42,485
Southdown Sugars, Inc.	39,070
Sterling Sugars, Inc.	11,564
J. Supple's Sons Pltg. Co., Ltd.	4,309
United States Sugar Corp.	105,697
Valentine Sugars, Inc.	11,964
Vermilion Sugar Co., Inc.	2,239
Vida Sugars, Inc.	4,378
A. Wilbert's Son Lbr. & Sh. Co.	8,623
Young's Industries, Inc.	5,956
Louisiana State University	100
Any other person	000
Total	580,025



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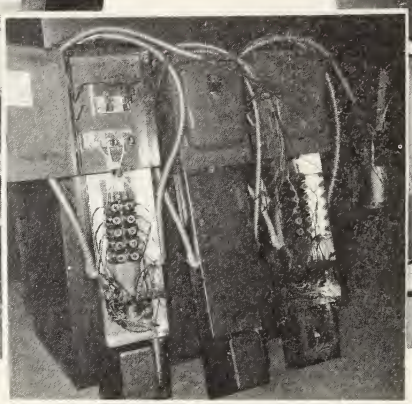

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THE SUGAR BULLETIN

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In This Issue

Up Front With The League 387
The Old Mule—Wage-Price Hearing—Proportionate Shares

In The Field With Lloyd L. Lauden 388
Heating Units For Control Of Stunting Disease In Operation

In Washington With Joe Ferris 389

Shaffer To Be King Sucrose XV 390

The Ninth Congress Of The International Society Of Sugar Cane Technologists, India, January, 1957 391

Sugarcane Seedling Work At Louisiana State University 392

Sorgo Nursery Trials At The U. S. Sugarcane Field Station At Houma, La., in 1955 397

Announcement Of 1957 Proportionate Share Determination 398

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THE SUGAR BULLETIN

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Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

The Old Mule

Pretty soon we'll be leaving for a couple of weeks of alleged peace and quiet, and we wish we could take the Old Mule with us.

Apparently the driver of our mythical sugar market character has become a little panicky now that he has discovered it isn't as easy to beat the Old Mule down as it used to be. This last 50,000 ton quota increase that Mr. Myers ordered on August 7th was a shocker. It increased the overall quota to 8,675,000 tons and the New York Journal of Commerce called it "vindictive".

Mr. Webster says "vindictive" means "an act of vengence" and with all this going on, it's easy to see that the Old Mule is in a pretty tough spot.

Wage-Price Hearing

The August 15th issue of The Sugar Bulletin was our big Statistical Issue and we couldn't find the room to report on the Wage-Price Hearing held in Thibodaux on August 2nd.

Actually this was about the tamest Wage-Price Hearing that it has been our pleasure to attend in many and many a year. If it hadn't been for a little difference of opinion between representatives of the Industry's Grower - Processor Committee, and the spokesmen for the Farm-Bureau we would have sworn we were in the wrong place despite the fact that our good friends from the Sugar Division, Messrs. A. A. Greenwood, W. S. Stevenson, and W. M. Grayson were doing their usual fine job of building up the record.

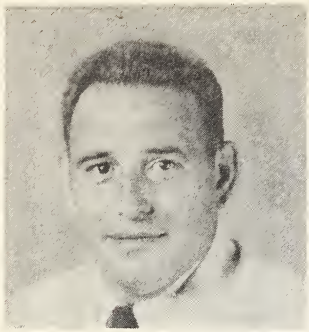
The "Wage" part of the hearing was conducted in the morning and consisted of a report by Dr. J. R. Campbell, Agricultural Economist of L. S. U., covering the cost of producing cane, and a report by Mr. T. M. Barker, Chairman of the Labor Committee of the American Sugar cane League. No one else testified.

Mr. Barker proposed that harvesting and cultivating wage rates be increased approximately 10% provided "the Department restores to the Mainland Cane Sugar Area in 1957 the proportionate share acreage of 1955", which the Department has now done. He said that unless the 13% acreage cut suffered this year was restored in 1957, the industry would not be able to afford the higher wages.

Mr. Ed. Schexnayder, a cane farmer from Bayou Goula, spoke for the Grower-Processor Committee. This is *not* a committee of the American Sugar Cane League. Mr. Schexnayder recommended for both the growers and processors, who were in unanimous agreement, that the Fair Price Determination for the 1956-57 season be the same as the one used last season. In last season's contract the pricing period for blackstrap ended on the last Thursday in February and the pricing period for sugar ended on the last Thursday in April.

Mr. James Graugnard, a cane farmer from St. James, testified for the Farm Bureau. He said that his organization felt that it would be better to shorten the pricing period

(Continued on page 389)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Heating Units For Control Of Stunting Disease In Operation

Again this year Louisiana cane farmers are operating heat treating units for the control of Stunting Disease. There are approximately 60 units in operation this year, as compared to the 40 that were used last year. Cane treated last year shows a marked improvement over "field run" cane.

A number of farmers began treatment in the middle of August this year in spite of the difficulty encountered in loading short cane in the racks. Experience has indicated that early treatment results in better stands. Cane treated early has the advantage of warm weather for rapid germination. This cane establishes a root system in the fall and is better suited to withstand the winter. Cane treated late usually must remain dormant until spring. Treated cane is always injured to some extent by the 58°C. temperature necessary for the treatment and is in a somewhat weakened condition to remain dormant until spring.

The Committee on the Control of Stunting Disease recommended that treatment begin as soon as possible after August 1 and be discontinued not later than October 1. Weather conditions following the treatment has much to do with the stands obtained.

Rainfall immediately after planting the treated seed will certainly help. In fact for the small acreage treated each year, the Committee has suggested that the cane be watered in the row before covering.

The cane treated last year and the increase from earlier treated material shows marked increases in yield. C. P. 36-105 shows a substantial increase following treatment. Field run C. P. 36-105, in general, shows a high percentage of Stunting Disease. The disease has been found to some extent in all commercially important varieties and in all areas. Good increases have been found following heat treatment of C. P. 44-101. Even the two new varieties released last year, C. P. 48-103 and C. P. 47-193, show the presence of the disease, and yield increases can be expected following the treatment of them. Farmers can usually expect increases ranging from 4 to 7 tons and even higher, depending on the variety and on the degree of infection of Stunting Disease. Greater increases from the use of heat treated cane can be expected in years when rainfall has been poor. Diseased cane suffers more during dry years. Treated cane and the increase can generally be distinguished from "field run" cane by the better height, evenness of height and stand, larger barrel size, greater number of stalks per stool, and the darker green color of the treated material.

Farmers are urged to visit places where treating of cane has been done to observe the difference resulting from the control of this disease. County Agents, at most of the Annual Parish Field Tours, included demonstrations of both the Heating Units and the heat treated cane in the field this year.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

During the brief breathing space between the national political conventions and the Presidential campaign, agricultural experts are trying to determine which party platform offers the most to the farmers of the nation.

It is evident that both parties are willing to do almost anything to help the farmers, but there seems to be wide difference of opinion on what to do.

Some agricultural economists here predict that a lot of emphasis will be placed on parity in the forthcoming political debate on the farm problem. This debate on parity, they say, will only further befuddle an already confused situation because the parity formula is geared to pre-World War I days and due to technological improvements and changes in dollar value is now completely unrealistic and unreliable.

The two major political parties are not very far apart in their support programs and as far as the sugar cane farmers are concerned a debate on parity would be irrelevant and immaterial.

Officials of the Sugar Branch, United States Department of Agriculture say they expect to announce about the middle of September, wage rates for persons employed in the harvesting of the 1956 crop of sugar cane and in the planting and cultivating of sugar cane during the year 1957.

Fair and reasonable prices for the 1956 crop of sugar cane to be paid under either purchase or toll agreements by producers who process sugar cane grown by other producers will be announced simultaneously with the wage determination.

The United States Department of Agriculture announced that after the close of business August 16, 1956, certification by the Department will be required before any sugar from the Republic of the Philippines may enter the continental United States.

The requirement, which will remain in effect until January 1, 1957, has become effective because more than 80 percent of the quantity of sugar which may be entered in 1956 from the Republic of the Philippines has already arrived. The 1956 quota for the Republic of the Philippines 980,000 short tons, raw value. The certification method is a means of preventing entries of sugar in excess of the quota.

———o———

UP FRONT

(Continued from page 387)

for both blackstrap and sugar, ending both on the last Thursday in January. The Farm-Bureau also recommended certain changes in the procedure followed by Mr. Grayson's office in testing cane at the mills.

As is usual, the Government people took the testimony back with them to Washington for further study.

Proportionate Shares

Thanks are due the Sugar Division for accepting the League's recommendation that our cane acreage for 1957 be restored to the 1955 level. Congratulations to the Division for issuing the determination early!

SHAFFER TO BE KING SUCROSE XV

John J. Shaffer, Jr., one of the best known sugar cane farmers in the state, will reign as King Sucrose XV at the Louisiana Sugar Cane Fair and Festival in New Iberia, September 28-30.

When Louisiana history was being made the Shaffer family settled in 1830 in Terrebonne Parish. It has been a family heritage and tradition to be affiliated and engaged in the production of sugar cane.

King Sucrose XV was born May 2, 1887, at the Shaffer ancestorial home belonging to his grandfather and called Magnolia Plantation. He was named after his grandfather. His friends sometimes call him "Jack".

He received his formal education from the University of the South, Sewanee, Tennessee, where he graduated with a Bachelor of Arts degree in 1907.

After graduation from college, he joined his father and brother in operating Ardoyne Plantation, about five miles from his birthplace, in Terrebonne Parish.

Sugar and its cultivation, and the machinery connected with it, have been Shaffer's main interest in life.

For more than 20 years he has been actively connected with the American Sugar Cane League. He was elected a member of the Executive Committee of the League September 26, 1935, and has been either an Officer or a Member of the Executive Committee continuously since that time.

In 1937 he was elected Third Vice President of the American Sugar Cane League and in 1939, he became Second Vice President.

He was elevated to the office of the First Vice President of the League and in 1943, was elected by a unanimous vote, as the President of the organization.

In promoting the welfare of the Louisiana Sugar Industry, for the past two decades, his work has been outstanding. He was the acknowledged champion for the cause of the cane farmers, not only in their negotiations with the Louisiana Sugar Mills, but also in promoting better cultural practices in the cane fields.

For many years he has been associated with the Thomson Machinery Co. of Thibodaux, which company is owned and operated by Byron C. Thomson, the originator and developer of the Cane Field Machinery here in Louisiana. This company during the past 30 years has developed and produced a complete line of machinery for the production and harvesting of sugar cane, not only for Louisiana but for many other areas in the world where sugar cane is grown.

At present Mr. Shaffer is Secretary of the American Sugar Cane League, and also is a Member of the League's Finance Committee, Legislative Committee, Chairman of the Farm Machinery Advisory Committee, and a Member of the Proportionate Share Acres Committee.

In addition to his work with the American Sugar Cane League, Mr. Shaffer was a Member of the State Agricultural Adjustment Administration Committee which has since become known as the Agricultural Stabilization Conservation Committee. When the Sugar Act was first passed in 1934, the Grower-Processor Committee of the industry was formed. As a Grower-Member of this Committee, Mr. Shaffer, has served continuously since it was first organized.

The Grower-Processor Committee recommends to the Secretary of Agriculture, each year, a cane purchase contract to be used by factories in the buying of cane.

Besides his work with the above mentioned committees "King Shaffer" was for seven years a Member of the Board of Directors of the New Orleans Branch of the Federal Reserve Bank. He is also a Member of the Terrebonne Parish School Board, and of the Houma Chamber of Commerce.

THE NINTH CONGRESS OF THE INTERNATIONAL SOCIETY OF SUGAR CANE TECHNOLOGISTS, INDIA, JANUARY 1956

by H. M. Tysdal[1]

Attendance at the Congress of the International Society of Sugar Cane Technologists in India in January 1956 has already resulted in possible future assistance for American sugarcane growers. We have recently received at Washington several new sugarcanes from Australia as a result of specific information obtained at the Congress and direct requests to Australian workers. One of the new introductions made available to us, for example, although not yet used commercially in Australia, is outstandingly resistant to lodging, a character desired by Louisiana sugarcane growers. In addition, much information was obtained from sugarcane specialists convened from all parts of the world. At least two diseases not present in the United States were observed in India. One is sugarcane smut, and another, probably a virus, is called the "grassy shoot" disease. Great care is taken in our quarantine system to guard against the entry of any diseases into the United States. The Congress toured a large part of India, and the members received a very cordial reception throughout the country.

Dr. E. V. Abbott and Dr. S. J. P. Chilton were other members in attendance from the United States who observed firsthand many of the disease problems and other factors connected with sugarcane production. They were the first to identify the ratoon stunting disease in certain parts of India where it had not been previously observed. The information obtained and contacts made at the Congress, I am sure, will be very helpful in all of our work.

India is second only to Cuba in the world production of sugar, with a total of approximately five million tons per year, about half of which is "GUR," or non-refined sugar. The average yield of cane for all India is about 13.9 tons per acre, but it varies from as much as 50 to 60 tons south of Bombay under irrigation to less than 8 tons per acre in Bihar. In some areas, particularly in Bombay State, as much as 500 pounds of N per acre is used, although this may be due to a particular, somewhat alkaline soil type or other problem. The type of plantings varied, with row widths ranging from three to five feet. As a matter of interest, the question of row spacing was discussed with representatives of other countries, and, apparently, Louisiana represents the only large acreage in the world where the cane is grown in such widely spaced rows. Seven research institutes and experiment stations were visited, as well as factories and other industries. Perhaps one of the most striking features was the excellent facilities at their sugarcane research stations. Several of these had fine buildings and available land ranging up to 1,500 acres which, as can be readily understood, is better than we have in the United States. At one station, we had a demonstration of elephant plowing, not, however, with the idea it would be adopted in Louisiana!

At the plenary sessions in New Delhi the Congress unanimously agreed to establish a second world collection of sugarcane in India. This will be in addition to the one at Canal Point, Florida. It will be helpful in reducing the hazard for the continuation of rare species or clones now found only at our Canal Point, Flordia, station. Another resolution passed by the Congress was to establish a "Standing Committee on Germ Plasm and Breeding." This committee will assist all sugarcane breeders

(Continued on page 399)

SUGARCANE SEEDLING WORK AT LOUISIANA STATE UNIVERSITY

S. J. P. Chilton, P. H. Dunckelman, R. D. Breaux, P. J. Mills and R. J. Steib

In the spring of 1948 it was felt by the three organizations concerned in the development of new varieties for the Louisiana sugar industry, (The American Sugarcane League of the U. S. A., Inc., The United States Department of Agriculture, and The Louisiana Agricultural Experiment Station) that an expansion in the breeding program was necessary to obtain the new varieties essential to the sugar industry. It was decided at that time that the Department of Plant Pathology of The Louisiana Agricultural Experiment Station could handle the projected increase in the number of seedlings to be grown each year. The first seedlings were planted in the field at Baton Rouge, La. in 1949 and the program has been continued to the present time, seedlings from seed produced in Louisiana being included since 1951. This paper summarizes the seedling work to date at Baton Rouge, La.

Methods

A summary of the steps made in the production of a new variety at The Louisiana Agricultural Experiment Station is given below. Individuals in organizations other than the Department of Plant Pathology handle the potential varieties from a certain stage.

The seed are first obtained by crossing varieties of sugarcane which are flowering (Fig. 1a). This is done at present at Canal Point, Fla., and Baton Rouge, La. When these seed are ripe they are planted in small flats in the greenhouse (Fig. 1b). When the seedlings from these seed are 3-5 inches high they are transferred to small clay pots (Fig. 1c) where they are allowed to grow until large enough for inoculation with the sugarcane mosaic virus. The seedlings showing the mosaic disease are discarded. The seedlings in the pots are usually large enough (Fig. 1d) to transfer to the field in April and May, although at times it has been necessary to transfer some seedlings to the field as late as June. Each seedling is different and is potentially a variety. These plants are removed from the pots and set two feet apart in the field on six foot rows and are watered as necessary until they become established. They are then cultivated until laid by. Selections are not made in the plant cane produced by these seedlings, primarily because they are usually too small for selection. The plants are therefore cut back and the routine cultivations and fertilizations are made the next year when selections are made from the individual stools in the last week in September and the first two weeks in October. A brix reading with a hand refractometer is used to obtain relative sucrose in relation to the standard varieties.

An examination of Table 1 shows that as many as 48,480 seedlings, space planted two feet apart have been put into the field in one year (1952). With the standard varieties (Co. 290, C. P. 34-120, and C. P. 36-105) which are interplanted among the seedlings in the field for comparison, this means that over 18 miles of cane rows were planted to seedlings in 1952 and these 18 miles were walked in the fall of 1953 and each plant present looked at individually.

Once selected, the canes are replanted in ten foot plots as soon after selection as possible. There are standard varieties (C. P. 34-120, C. P. 36-105 and Co. 290) planted at the same time for comparison. The next fall, the first sucrose analyses (5 stalk samples) are made from the canes in the ten foot plots. At the same time sucrose analyses of 5 stalk

Figure 1a. Inside cross made at Grand Isle, La. Pictured is one male parent with numerous female parents clustered around it.

Figure 1b. Flats with sugarcane seed.

samples of C. P. 34-120, C. P. 36-105 and Co. 290 are made so that a comparison is available between the selections in the ten foot plots and the standard varieties. Those canes in the ten foot plots which meet the minimum standards for type, vigor, stand, sucrose, barrel size, and other characters are replanted in 20 foot plots, again in comparison with the standard varieties given above. The next fall sucrose analyses are made in comparison with the standard varieties from both the ten foot first stubble plots and the 20 foot plant cane plots. After evaluation of the data available and consideration of the appearance of the canes in the 20 foot plant cane plots and the ten foot first stubble plots, C. P. and L. numbers are assigned in conference with personnel of the U. S. D. A. from Houma, La., and also Canal Point, Florida. Seed of those canes assigned C. P. or L. numbers are given to the agronomist at L. S. U. (Mr. E. C. Simon) and the agronomist at Houma, La. (Dr. Leo Placide Hebert) who then plant these new varieties and after further studies, send those considered of possible commercial value to outfield plots for testing under field conditions and also to the primary stations (Smithfield in West Baton Rouge Parish, Southdown in Terrebonne Parish, and New Hope in Iberia Parish) for seed increase. The primary stations are under the care of Mr. L. L. Lauden of the American Sugar Cane League.

From the above it may be seen that a seedling from a cross made in the fall of 1948 would not be replanted in a ten foot plot until the fall of 1950 and a C. P. or L. number would not be assigned until 1952 at which time only three sucrose analyses would be available and only a 20 foot plant cane plot and ten foot first stubble plot of the cane would be growing in the field. From this 30 feet of cane, the two agronomists must be supplied seed, stalks for sucrose analyses taken, stalks for the red rot tests taken, and enough seed hot-air treated and replanted to be sure cane free of the ratoon stunting disease will be available for the future.

The Plant Breeders at the Experiment Station of the Hawaiian Association of Sugar Planters have initiated a new approach to the planting of sugarcane seedlings in the field for selection called the bunch planting system (Warner, 1953). In this method instead of single seedlings being space planted in the field, 5 to 15 are planted together and the most vigorous seedling or seedlings in a bunch tend to dominate. The initial selections are then made only on the basis of the best stalk in a bunch and this stalk is replanted in a very small plot for evaluation as to type, etc. the next year. In 1954 (Table 1) this was tried at Baton Rouge, La. with 9,570 seedlings but no selections were made. However, this method is to be tried again in 1956 on a considerably larger scale.

Results of Work

An examination of Table 1 shows that from 1949 through the spring of 1956 an estimated total of 440,753 sugarcane seedlings have been potted at Baton Rouge, La. Of these 389,593 have been potted individually in 2½″ to 3″ pots and 51,160 were bunch planted (10 to a pot). In terms of area, these pots if placed together would cover four-tenths of an acre. There are also three groups of sugarcane seedlings represented in 440,753 seedlings potted. There have been 314,906 seedlings potted from seed produced at Canal Point, Fla., (C. P. series), 99,286 seedlings from seed produced at Grand Isle, La., (L. series) and 26,561 seedlings from seed produced at Baton Rouge, La. (B. R. series). The seed from Baton Rouge, La., was produced from canes which had been induced to flower by regulating the day-length (Chilton, and Moreland, 1954). This makes a total of 125,847 seedlings potted from 1951 through 1956 from Louisiana produced seed of sugarcane.

All of the 389,593 seedlings potted

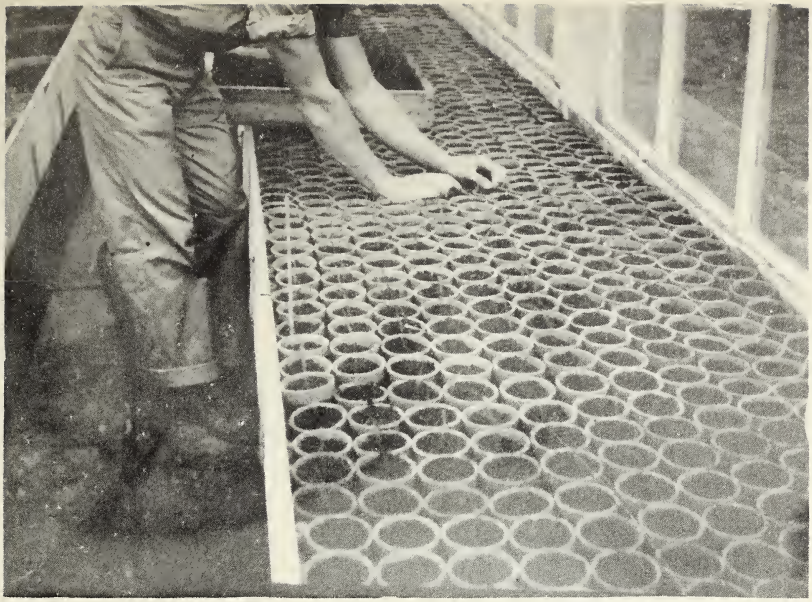


Figure 1c. Transplanting sugarcane seedlings from flats to small clay pots.

Figure 1d. Seedlings growing in pots sufficiently large to be transplanted to the field.

TABLE 1

Resume of sugarcane seedlings and selection work from 1949 to 1956 at Baton Rouge, La.

Cross and planting years[1]	Source of seed[2]	No. seedlings potted	No. seedlings with mosaic	No. seedlings in field	No. replanted 10' plots	No. C. P. or L. assignments	Year assigned or to be assigned
1948-1949	C. P.	52,826	5,813	40,010	543	2	1951
						35	1952
						9	1953
						2	1954
Total						48	
1949-1950	C. P.	55,893	16,624	35,345	542	44	1953
						3	1954
						4	1955
Total						51	
1950-1951	C. P.	3,825	1,487	3,818	253	0	1954
						1	1955
1950-1951	L.	75	0	75	10	0	1954
Totals		3,900	1,487	3,893	263	1	
1951-1952	C. P.	46,955	19,791	28,982	297	17	1955
1951-1952	L.	27,645	7,379	19,498	243	11	1955
Totals		74,600	27,170	48,480	540	28	
1951-1953	C. P.	8,952	1,847	6,840	37	-	1956
1952-1953	C. P.	2,735	817	1,860	17	-	1956
1952-1953	L.	37,124	5,741	29,463	261	-	1956
Totals		48,811	8,405	38,163	315	-	
				Single Spaced Plants			
1953-1954	C. P.	39,281	9,800	23,953	326	-	1957
1953-1954	L.	20,817	5,906	11,969	87	-	1957
				Bunch Planted			
1953-1954	C. P.	9,900	0	9,030	0	-	1957
	L.	540	0	540	0	-	1957
Totals		70,538	15,706	45,492	413	-	
1953-1955	C. P.	26,700	8,469	16,392	-	-	1958
1954-1955	C. P.	2,354	521	1,695	-	-	1958
1953-1955	L.	13,085	3,537	8,666	-	-	1958
1954-1955	B. R.	2,808	318	2,471	-	-	1958
Totals		44,947	12,845	29,224	-	-	
				Single Spaced Plants			
1953-1956	C. P.	1,244	377	826	-	-	1959
1954-1956	C. P.	3,240	989	2,127	-	-	1959
1955-1956	C. P.	25,781	7,662	16,270	-	-	1959
1955-1956	B. R.	18,253	4,873	12,023	-	-	1959
				Bunch Planted			
1955-1956	C. P.	35,220	0	34,250	-	-	1960
1955-1956	B. R.	5,500	0	5,190	0	0	1960
Totals		89,238	13,901	70,686	-	-	
Total (Singles) All Years		389,593	101,951	262,283	2,616	128	
Total (Bunches) All Years		51,160	0	49,010	0	0	
Grand Total All Years		440,753	101,951	311,293	2,616	128	

[1] 1st year is the fall that the seed was produced. 2nd year is year that seedlings were planted to field.

[2] C. P. = Seed from Canal Point, Fla., L. = Seed from Grand Isle, La., B. R. = Seed from Baton Rouge, La.

individually were inoculated with the sugarcane mosaic virus and 96,138 of the 336,757 seedlings potted in the 1949 through 1955 potting seasons developed the mosaic disease, and with the exception of a few thousand planted in the field for certain studies were discarded. This represents an average of 28.5 percent discards from mosaic for the 7 year period.

From 1949 through 1956, 262,283

(Continued on next page)

SORGO NURSERY TRIALS AT THE U. S. SUGARCANE FIELD STATION AT HOUMA, LOUISIANA, IN 1955

by O. H. Coleman and J. L. Dean [1]

One of the limiting factors in the production and culture of sorgos (sweet sorghums) in the extreme southern United States is disease susceptibility. None of the present commercial varieties is resistant to all of the prevalent diseases in southern Louisiana. Varieties have been imported from all over the world but none of them has proven to be of commercial value in that area.

The sorgo breeding program at the U. S. Sugar Crops Field Station, Meridian, Mississippi, includes the production of varieties tailored to meet the requirements in southern Louisiana. One of the most damaging diseases to sorgo in southern Louisiana is leaf rust caused by *Puccinia purpurea* Cke. Efficient technics have not been developed at the present time to evaluate rust resistance at Meridian. Experimental plantings at the U. S. Sugarcane Field Station, Houma, Louisiana, however, have indicated that natural infection of this disease is severe and uniform enough to determine resistance of parent varieties and progenies. Consequently, early generation hybrids are grown each year at the Houma Station and evaluated for disease resistance (mainly rust), yielding ability, juice quality for sirup and sugar production and lodging. This paper gives a brief report of the results of these tests in 1955.

The experiments summarized herein were conducted on Sharkey Clay (drained phase) soil and involved a randomized block design of 3 replications with 1/600 acre plots 1 row wide (rows 6 feet apart). The tests were planted on April 27, 1955. A total of 89 selections plus the 4 check varieties were included in the study. These selections have proven to be superior in the breeding trials at Meridian, Mississippi. Leaf disease ratings ranged 0 to 5 with 0 indicating no disease and 5 the most

(Continued on page 398)

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seedlings have been space planted in the field two feet apart and 49,010 bunch planted. These 267,193 seedling clumps represent 102 miles of sugarcane row or a greater distance than from Baton Rouge to New Orleans, La. Each of these 102 miles has been or will be walked by the fall of 1956, and each plant examined for possible selection and replanting.

Of the eight years of seedling work represented in Table 1, the initial selections have been made in 6 of the years and 2,616 individual sugarcane stools have been replanted in 10 foot plots. Of these 2,015 were from the C. P. series and 601 from the L. series beginning in 1950-51. This leaves 29,224 seedlings placed in the field in 1955 and 31,246 singles and 39,440 bunches placed in the field in 1956 to be selected from in the fall of 1956 and 1957.

C. P. and L. assignments have been made from seedlings of the first four years. In all 128 seedlings have been assigned C. P. and L numbers and turned over to the agronomists for further testing. The 11 L. varieties assigned numbers represent the first sugarcane varieties from Louisiana produced seed.

It may be seen from Table 1 that it will be 1959 before C. P. and L. numbers will be given to those seedlings planted singly in the field in the spring of 1956 and 1960 for the bunch plantings.

Literature

Chilton, S. J. P., and C. F. Moreland. 1954. Experiments on the flowering of sugarcane. Sugar Bull 32(11): 165-169.

Warner, John N. 1953. The evolution of a philosophy on sugarcane breeding in Hawaii. Hawaiian Planters' Record. 54: 139-162.

ANNOUNCEMENT OF 1957 PROPORTIONATE SHARE DETERMINATION

The U. S. Department of Agriculture announced on August 15 the determination of restrictive proportionate shares (farm acreage allotments) for sugarcane farms in the Mainland Sugarcane Area (Louisiana and Florida) for the 1957 crop. Marketing within such shares is one of the conditions which must be met by producers in qualifying for payment under the Sugar Act.

For farms generally, the 1957 proportionate shares will be the same as the 1955 proportionate shares. This restores for 1957 the reduction in acreage effected under the 1956-crop determination. Proportionate shares totaling about 302,000 acres were issued under the 1955 program and sugarcane from approximately 288,000 acres were marketed for sugar, harvested for seed, or classified as bona fide abandoned acres. This compares with a total of approximately 265,000 acres issued in the form of proportionate shares under the current program, with an estimated 252,000 acres to be harvested for sugar and seed, or classified as bona fide abandoned acres.

The determination embodies the principal recommendations made by grower and processor representatives at an informal hearing in New Orleans on July 19, 1956, including the restoration of the 1955 proportionate share acreage level.

Other important provisions of the determination are as follows:

1. Where a farm is subdivided, the proportionate share for each subdivision will be divided on the basis of the relationship of the cropland in each part to the cropland in the parent farm, unless the parties in interest agree upon a division based on the sugarcane acreage record for the last three years or on the 1957 planted acreage of sugarcane.

2. The date June 30, 1959, is established as a closing date for filing appliactions for payment with respect to the 1957 crop. Heretofore no closing date has been in effect.

3. Minimum shares of 5 acres are provided for any farm, as in 1956 County Agricultural Stabilization and Conservation Committees of the Commodity Stabilization Service have been delegated the responsibility for establishing farm proportionate shares in accordance with the determination.

—o—

SORGO

(Continued from page 397)

severe infection noted. The ratings for the specific diseases of rust (*Puccinia purpurea* Cke.) and zonate leaf spot (*Gloeocercospora sorghi* Bain and Edgerton) were made on July 28 but the general ratings were obtained several weeks later on September 6, prior to the first harvest, without reference to any particular disease. The most prevalent diseases at that time were gray leaf spot (*Cercospora sorghi* Ell. and Ev.), rust, and zonate leaf spot.

Table 1 includes the data for 5 of the most disease-resistant selections plus the 4 checks. It is apparent from these data that all of the check varieties (Collier, Rex, Tracy, and Sart) are lower in Brix and purity than these better selections. These low Brix values were associated with susceptibility to diseases. Collier and Rex, in the absence of diseases, have produced high concentration of sugar in the stalk and in the normal juice extracted from them. The purity of Tracy is usually somewhat below the latter 2 varieties while that of Sart is relatively high at the time of harvest. Inversion of sucrose takes place very rapidly in Sart during storage. It should be pointed out that Sart was harvested about 2 weeks before it had reached its peak in sugar content. This was true also of Mer. 55-8. At the same time, the

(Continued on next page)

latter variety had twice as much total solids in the juice as Sart. The better quality of selections 53-62 and Mer. 55-1 was due, at least in part, to their superior resistance to diseases. This increase in juice quality and disease resistance was accomplished without losing yield and other desirable characteristics.

These data indicate that the breeding program of the U. S. Sugar Crops Field Station at Meridian, Mississippi, has not yet developed a variety well adapted to southern Louisiana conditions but nevertheless the improvement over established varieties is outstanding. New parents, whose progeny have not been tested in Louisiana, are being used in this breeding program at the present time. Some of these varieties have a higher degree of resistance to the diseases prevalent in this area than those that have been used in the past. It is reasonable to expect, therefore, that varieties will soon be available that are well adapted to areas of southern United States similar in climatic conditions to the Sugar Belt of Louisiana.

[1] O. H. Coleman, Agronomist and J. L. Dean, Pathologist, Field Crops Research Branch, Agricultural Research Service, United States Department of Agriculture.

The authors appreciate the cooperation of Dr. L. P. Hebert, Agronomist, and Dr. E. V. Abbott, Principal Pathologist, Field Crops Research Branch, Agricultural Research Service, United States Department of Agriculture.

TABLE 1

Selected Data From the Sorgo Breeding Nursery, U. S. Sugarcane Field Station, Houma, Louisiana—1955

Variety or Selection	Date Harvested	Stage of Maturity	Lodging	Gross Yield Per Acre	Brix	Sucrose	Coefficient of Apparent Purity	Disease Ratings		
								Rust	Zonate Leaf Spot	General
			(%)	(Tons)		(%)	(%)			
52-19 y	9-28	SD	13.3	23.3	15.1	7.7	51.4	0	1.0	2.3
52-63	9-28	D	13.3	17.7	14.8	7.6	51.7	0	1.3	2.0
Mer. 55-8	9-28	M	13.3	24.0	15.0	8.1	53.6	0	1.3	2.0
52-107-1	9- 6	R	0	23.3	15.2	9.8	64.1	0	1.0	3.3
53-62	9- 6	R	10.0	22.0	14.5	8.7	59.4	0	1.0	3.0
Mer. 55-1	9-28	SD	10.0	22.3	14.4	10.0	68.4	0	1.7	2.0
Collier	9- 6	R	3.4	18.2	9.8	4.9	49.3	3.2	2.5	5.0
Rex	9- 6	R	9.2	18.3	10.0	5.4	53.6	2.8	2.8	5.0
Tracy	9- 6	R	13.4	20.4	11.0	4.8	41.9	2.2	1.3	4.0
Sart	9-28	M	15.0	25.2	8.0	2.1	25.3	3.2	2.0	3.3

Soil type : Sharkey Clay (drained phase)
Date Planted : April 27, 1955
Field Design : Randomized block, 3 replications
Plots : 1/600 acre, 1 row (6 feet apart)
Number of selections tested: 89 plus 4 check varieties

M - Milk stage of maturity when harvested
SD - Soft dough stage of maturity when harvested
D - Dough stage of maturity when harvested
R - Ripe stage of maturity when harvested

THE NINTH CONGRESS

(Continued from page 391)

to keep abreast of current events related to sugarcane breeding. Resolution No. 11 authorized the publication of a monograph on sugarcane diseases. Dr. E. V. Abbott has been asked to be one of the authors of this monograph, which when completed should be an excellent contribution to sugar growers and research workers.

All in all, it was an extremely well organized Congress, and those responsible for carrying it out can well be proud of their accomplishments.

At the final plenary session in New Delhi, an invitation was accepted to hold the Tenth Anniversary Congress in Hawaii in 1959, which is where the I.S.S.C.T. was born in July 1924.

[1] Agricultural Administrator, Field Crops Research Branch, Agricultural Research Service, U. S. Department of Agriculture.

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THE SUGAR BULLETIN

Vol. 34—No. 24 SEPTEMBER 15, 1956

Official Bulletin of the American Sugar Cane League of the U. S. A.

Announcing The

THIRTY-FOURTH ANNUAL MEETING

of the

AMERICAN SUGAR CANE LEAGUE

of the

U. S. A., Inc.

THURSDAY, SEPTEMBER 27th, 1956

BOARD ROOM, CHAMBER OF COMMERCE
315 Camp Street
New Orleans, La.
Meeting Convenes at 2:00 P. M.

At this meeting there will be an election of Officers and Members of the Executive Committee to serve during the ensuing year.

All Members of the League Will Please Consider This as an Official Notice To Attend

SAVE THIS ISSUE
See "Up Front" For Explanation

THE SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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In This Issue

Up Front With The League 403
In The Field With Lloyd L. Lauden 404
In Washington With Joe Ferris 405
Bagasse Gets A Future 406

UP FRONT WITH THE LEAGUE

by A. W. Dykers

We Need Your Help

Each year we have to revise the mailing list of *The Sugar Bulletin.* This is always a ticklish proposition because the factory lists of growers that we use contain thousans of names, some of which are identical, and we invariably take names off our list that should not be removed.

We have asked you to save this issue of *The Sugar Bulletin* because we are going to be using a revised mailing list beginning with our next issue (October 1, 1956)).

If you want to continue to receive *The Sugar Bulletin* and you *do not* receive a copy of the next issue (October 1, 1956) please tear off the front cover of this issue, on which your name appears, and mail it to the American Sugar Cane League, 414 Whitney Building, New Orleans 12, La. This will tell us that your name has been removed in error and we will immediately restore it to our list and send you a copy of the October 1st issue.

Your indulgence and your co-operation will be greatly appreciated.

Go To The Fair

This probably isn't news to anybody in the Louisiana sugar district, but the big Louisiana Sugar Cane Festival And Fair will be held in New Iberia, La. on September 28th, 29th and 30th, and we guess everybody knows that J. J. Shaffer, Jr. of Ellendale will reign as King Sucrose XV.

There is a chance, however, that some of you don't know the schedule of events so here is the program.

At 10 A.M. on Friday, September 28th, the Fair will officially begin with "Blessing of Crops". A parade will be held in New Iberia at 4 P.M., and there will be another parade in Jeanerette at 7 P.M. after which there will be dancing in the streets.

On the next day, Saturday, the Children's Parade, which is always a good one, will begin at 10 in the morning, and the Colored Parade will start at 2 in the afternoon.

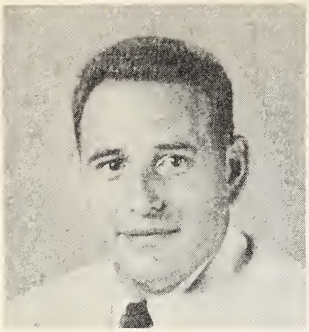
The Coronation of Queen Sugar XV will take place at 8:15 P.M. and the Queen's Ball is scheduled to begin at 10 P.M.

On Sunday, September 27th the Queen's Parade will start at 2 P.M. The Boat Race Finals are scheduled to begin at 2:45 P. M., the Horse Show at 3 P. M., and at 5:30 in the evening the King and Queen's reception will commence.

All the exhibits at the Fair will be open Friday, Saturday, and Sunday. Lloyd L. Lauden tells us that a heat treating unit for use in the control of the Stunting Disease may be on exhibition. Be sure to see it and all the other exhibits, too.

Mr. Voorhies Reports

We received a card from Mr. Voorhies the other day from Hong Kong. He says that he and Mrs. Voorhies are having a really fine trip and will be home shortly if they can get through the Suez Canal. Lets all hope for the best.



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Views and Opinions

Recent rainfall throughout the belt and particularly in the western area has certainly improved the color and growth of cane. The crop in general is good. Many who see the whole crop say that the state average will be at least 25 tons. In areas where rainfall has been inadequate the cane is not as tall as at this time last year, but in general stands are very good and there is still time for much growth before harvest begins.

Many growers have indicated that late lay-by really hurt cane this year. One large grower pointed out cuts of cane throughout the field that had been given a late lay-by cultivation, and other cuts nearby that had not received the lay-by cultivation. In all cases the cane that had received the late lay-by cultivation was shorter than adjoining cuts that had not received the late cultivation. When asked if the cane that had not received the late cultivation was different to begin with, the grower said that the same variety was being compared and that both plots of cane had been planted and cultivated by the same men. In each case both the late cultivated cuts and those cuts that had not received the late cultivation were the same height in early June. This grower said that rainfall stopped cultivation long enough to make it impossible to get back into the cane that had not received the lay-by cultivation.

Many growers are trying chlordane for first time this year. The August 15, 1956 issue of The Sugar Bulletin carries an article entitled "Get Good Stands of Cane In Heavy Soils By Using Chlordane." More heavy soil will be planted to cane this year than was planted last year because of the increase in acreage. Farmers who plant in heavy soils are urged to try chlordane. Yield increases have been experienced not only in the plant cane but in the stubble as well.

Three new unreleased canes are being transferred to all Secondary Increase Stations in the sugar belt this year. They are C. P. 52-57, C. P. 52-67 and C. P. 52-68. In addition to these three, C. P. 48-117 will be transferred to the Increase Stations in the Western area. It is hoped that one or more of these will prove themselves in the Test Fields for future release to the industry.

All four of these unreleased canes will also go to the St. Gabriel Penal Farm where they will be grown for the milling studies carried on jointly by the Southern Regional Laboratory, the Audubon Sugar Factory and the League.

Dr. S. J. P. Chilton and associates are having good success with inducing flowering of sugarcane in Baton Rouge this year. Many varieties have already flowered and a number of crosses are being made. Dr. Chilton, Mr. E. R. Stamper, Dr. Richard Breaux, Mr. Preston Dunckelman, and Dr. R. J. Steib have spent several days at Grand Isle recently constructing quarters for their staff to live in when doing sugar cane breeding work on the Island.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The big question in Washington is: "Could the Suez situation explode into World War III." The best judgment is against a shooting war; most authorities here expect a compromise settlement, but nevertheless they are not as confident of this as they were a short time ago.

Annual Beet Meeting

Robert H. Shields, President and General Counsel, and Dr. Phillip Jones, Secretary and Treasurer of the U. S. Beet Sugar Association are in the west for the annual meeting of their association. The meeting will be held in Salt Lake City, Utah September 17th and 18th.

International Sugar Meeting

The International Sugar Meeting which began last May 21, 1956 in New York City and was recessed in order that the delegates might return to their home countries for further instructions, will reconvene in Geneva, Switzerland October 4, 1956.

The U. S. delegation will consist of Messrs. Lawrence Myers, Director of the Sugar Division; Thomas Murphy, Chief, Program Analysis Branch and William M. Case, Chief International Sugar Agreement Staff, from the U. S. Department of Agriculture, and Messrs. Paul E. Callanan and John J. Czyzak from the U. S. Department of State.

The industry advisory group will probably be headed by Frank A. Kemp, President of the Great Western Sugar Company, Denver, Colorado; Robert H. Shields, President and General Counsel, U. S. Beet Sugar Association, Washington, D. C., and Gordon Lyons, Executive Manager, California Beet Growers Association, Stockton, California.

The following letter, dated August 22nd, 1956 and signed by Dudley Smith, Vice-President, Assn. of Sugar Producers of Puerto Rico; Slater Miller, Vice-President, Hawaiian Sugar Planters' Association; Josiah Ferris, Vice-President, American Sugar Cane League; and Robert H. Shields, President and General Counsel, U. S. Beet Sugar Association, with copies to Honorable Herbert Hoover, Jr., Under Secretary of State, and Honorable True D. Morse, Under Secretary of Agriculture, was sent to Mr. Lawrence Myers in response to his request for the industry's views with respect to the position to be taken by the U. S. delegates to the International Meeting: "Dear Mr. Myers:

With reference to your letter of August 9, and in confirmation of the views expressed in our discussions with you and your associates on August 16, the undersigned representatives of the domestic sugar producing areas believe that the principles and points outlined in our letter to you of May 14, 1956, with respect to the recent New York Conference are equally applicable to the prospective Geneva meeting.

As a matter of general principle, as stated in our May 14th letter, 'The domestic sugar industry—as demonstrated in the position which it took with respect to the 1953 Agreement —would favor an international com-

(Continued on Page 407)

BAGASSE GETS A FUTURE

(Reprinted from the July Issue of "Agricultural Research" of the U.S.D.A.)

Bagasse — the fibrous residue of sugarcane that remains after crushing the stalks for juice — may soon have as much commercial utility tonnagewise as the sugar obtained from the cane. Through processes developed at USDA's Northern Utilization Research Branch, Peoria, Ill., unbleached or bleached pulps suitable for corrugated boxboard, newsprint, and fine papers can be manufactured *economically from whole bagasse or, better, from pith-free bagasse fiber.*

Worldwide, the supply of bagasse is immense. For every pound of sugar produced, more than a pound of bagasse accumulates. Since it takes almost 50 billion pounds of sugar to help satisfy the world's sweet tooth, more than 50 billion pounds of bagasse are available for a variety of industrial applications. Until recent years, its full potential value had not begun to be realized. For the most part, bagasse was destroyed by burning in sugar-mill boilers, even in excess of the fuel needs.

Two main kinds of tissue make up bagasse — hard, strong fibers that form the outer covering and support of the cane, and pith cells that contain the sugar juices. These pith cells lack fibrous structure and strength; they should be removed for most effective utilization of the fiber.

Turning bagasse into paper has long been possible. But older ways of separating pith were impractical, and destructive of the fiber. So it was economically and technologically impossible for bagasse paper to compete with the wood-pulp product.

Now, principles of the mechanochemical process (AGR. RES., July 1954, p. 7) have been applied along with highly practical methods developed and tested on a commercial scale by ARS researchers to separate pith from bagasse fiber. So it's possible to prepare greater yields of high-quality bagasse pulps at lower costs.

Potential availability of bagasse papers made possible by this work should have far-reaching effects in improving social and economic conditions in less-developed countries.

Extended semicommercial-scale studies were recently completed under USDA contract at the New York State College of Forestry, Syracuse. These showed that fine bleached papers and newsprint, as well as superior corrugating medium and liner for container boards, can be made from depithed bagasse pulped by the mechanochemical process, and also from blends of depithed bagasse pulp and kraft wood pulp. The practical use of both bagasse and wheat straw for newsprint manufacture was demonstrated when experimental newsprint comprising 30 percent bagasse or straw pulp and 70 percent groundwood pulp was used successfully in printing a portion of the Peoria Journal in December 1954.

Several types of papers from bagasse pulped by the mechanochemical process have been produced at Peoria in cooperation with the U. S. Forest Products Laboratory, Madison, Wis. As far as physical properties are concerned, these pulps are stronger in all but tearing resistance than softwood pulps produced by the acid sulfite process. The pulps are particularly suitable for blending with wood pulps to make a wide variety of fine papers as well as newsprint.

In Louisiana and Florida, where the 900,000 tons of United States bagasse are produced annually, some of the bagasse is processed into poultry litter. This business is more profitable than burning the bagasse and is increasing in volume yearly. The potential market for bagasse litter is indicated by the 13.3 million tons of all types of litters used in the United States in 1952.

Potential industrial usefulness of bagasse was increased when the Northern Branch developed practical

ways of removing pith from fiber. Commercial-scale trials of one method indicate that these procedures are entirely feasible for operation at sugar mills. Commercial application of these methods for separation of pith and fiber would not only improve the present use of bagasse but should also lead to expanded utilization of bagasse now being wasted.

Sugar extraction yields another byproduct—blackstrap molasses, the sirupy residue of sugarcane juice left after extraction. Our potential market for molasses as feed is estimated at nearly a billion gallons a year.

One of the most promising methods for using pith is to take advantage of its high absorption value for blackstrap molasses—more than three times higher than for many common absorbents—and use the pith as a dry-form molasses carrier. More than 70 percent of our blackstrap can be mixed with pith to produce a solid, easily transportable, high-energy ingredient that livestock relish.

If the sugar industry itself undertook the recovery, maximum profit from these byproducts would result. The sugar mills could separate the pith and fiber, sell the fiber to paper mills, and combine the dried pith with blackstrap molasses to make an ingredient for livestock feeds. By proper use, these byproducts could be a factor in offsetting operating costs.

Our commercial exploitation of bagasse is already being expanded. In addition to making insulating boards and plastics compounds from bagasse in Louisiana, a paper mill is producing 20,000 to 25,000 tons of bleached papers annually from whole bagasse. Good opportunity remains for developing new and expanded industrial outlets because less than 40 percent of the Louisiana production (700,000 tons) is being utilized to best advantage as a raw material.

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IN WASHINGTON

(Continued from Page 405)

modity agreement on sugar which would, in its judgment, offer a fair chance, (1) of stabilizing world sugar prices at equitable levels for the mutual benefit of both sugar producers and consumers, (2) of maintaining purchasing power in sugar exporting countries so as to permit fair living standards and wage rates in those areas, (3) of encouraging, in every practicable way, increased consumption of sugar, and (4) of fostering orderly marketing of sugar.'

With specific reference to the position of the United States at the forthcoming Geneva meeting, we would like to restate and underscore the points which we expressed in our May 14th letter. In the first place, since the United States has its own sugar program exempt under the terms of the Agreement from the operations of the world quota system, we do not believe that United States should get out in front and take the lead in the negotiations at Geneva. In the second place, inasmuch as we are convinced that no sugar producer who must sell in the 'world market' can today maintain fair living standards and wage rates unless the price he receives for his sugar is at least up to the minimum range in the present agreement, we think the United States should not support any agreement which includes a minimum price objective lower than the three and a quarter cent minimum in the present Agreement. And finally, the United States should recognize that probably no agreement would be workable unless countries representing more than two-thirds of the world's sugar production and consumption are accounted for. Obviously, the United States should oppose any international agreement which would adversely affect any domestic sugar program which the Congress has already provided or may in the future provide for the United States.

Because of the questions of high policy involved in the impending renegotiation, copies of this letter are being sent to Under Secretaries of State and Agriculture for their information."

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